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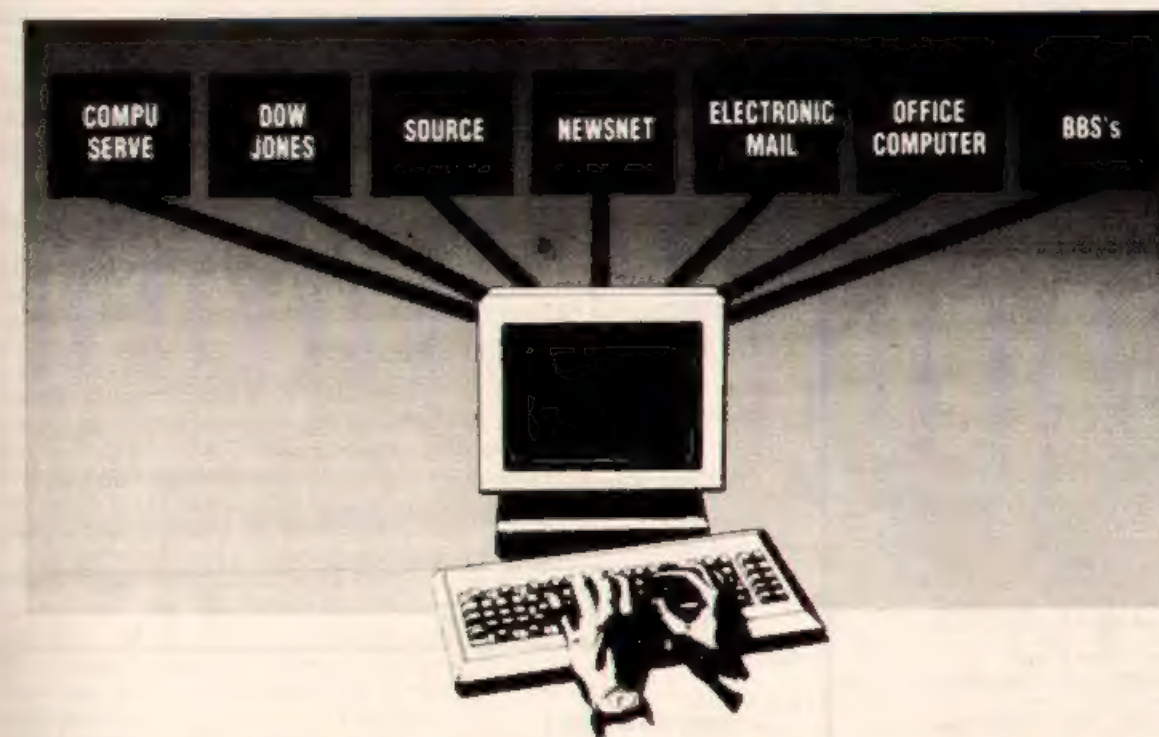
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The Monthly Magazine for
Sanyo Personal Computer Users

Vol. II, Issue 9 April 1986

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- The small disk symbols appearing beside features and regular columns indicate that the program listings with those articles are on this month's **SOFT SECTOR ON DISK**, ready to LOAD and RUN. For full details, see the **SOFT SECTOR ON DISK** ad on Page 27.



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Delphi Bureau

By Kevin Nickols
MS-DOS SIG Manager

The Delphi MS-DOS SIG has really been picking up steam over the past month. Membership is now well over 2,000, with as many as 100 members accessing the SIG on a single weekend day. And even better, more and more knowledgeable Sanyo users are taking the time to participate, share their programs and help others with answers and advice.

The databases are beginning to fill with public domain and user-supported, or "freeware," programs. There are many excellent utilities, full-featured terminal programs, games, home and business programs, and programming aids. If you are not familiar with user-supported software, these are market-quality programs, distributed freely by the producers with a note asking for a small donation if you like and use the software. It is a great marketing concept, giving you the chance to use a program before paying for it and also saving you the tremendous distribution costs tacked onto conventionally distributed software products.

Regrettably, Delphi has instituted an hourly rate hike, effective March 3. The basic rate for evening and weekend hours, previously \$6, will increase to \$7.20 an hour for mainland U.S. and Canadian members who access via Uninet and Tymnet. The prime daytime rate will increase from \$16 an hour to \$17.40.

Other rates apply for Hawaii, Alaska, Puerto Rico and international users. More information about these may be obtained online in the MS-DOS SIG or by calling Delphi at 1-800-544-4005.

There is some good news regarding rates on the horizon, however. Beginning March 3, Delphi will levy no extra charge for 2400 Baud access. Other online services charge premium fees for access at higher speeds, some as much as two or three times their standard rates. Also, they are beginning a value-packed membership plan called "The Delphi Advantage" which offers lower access rates, free manuals and command cards, a newsletter and other benefits. In exchange, members agree to use, essentially, six hours of online time each month at a guaranteed \$6 an hour basic rate.

Other good news involves enhancements in the Delphi software. Commands and features are constantly being added to make the system more flexible, powerful and user-friendly. Support for the Kermit file transfer protocol has recently been added to the workspace area and should soon be available in the open databases. This offers several advantages over Xmodem, including greater reliability of data transfer, multiple file transfers, and seven-bit transfers rather than eight (which should be a boon to our Canadian members who access through the seven-bit Datapac network).

At any rate, if you haven't joined us in the MS-DOS SIG by this time, I hope you will soon. Telecommunications is one of the most interesting and exciting things you can do with your computer. At the risk of sounding trite, I have to say it: There really is a whole world out there waiting.

SOFT SOAPBOX

An introduction and some good news for all Sanyo users prompts me to take over this space this month. The introduction involves one Ed Eilers, who, effective this month, becomes managing editor of SOFT SECTOR. Ed replaces Belinda Kirby who has been promoted to a lofty new position as editorial manager for two weekly newspapers in the Louisville area that we have recently begun to manage.

Belinda has done a fine job with SOFT SECTOR, as I am sure you will agree. I know that all of you will wish her well.

Ed has been on our staff for two years, primarily as a technical assistant, columnist and "answer man" for all three of our computer publications — as well as our new video software magazine, VCR. He has vast experience in both computer hardware and software and will, I believe, help greatly in blending the technical intricacies of the sometimes mysterious 550/555 and the new Sanyo line of MS-DOS compatibles.

I know you will all join me in welcoming Ed to his new responsibilities. I believe you will be pleased with some of his ideas and plans for SOFT SECTOR.

In the area of good news, there has been a management shakeup at Sanyo and some new directions in marketing are in the offing.

Belinda wrote a couple of months ago that Sandy Waters has left Moonachie. He was the marketing manager under Ed Goulart, who has now also left. Goulart was national sales manager.

Lou Leonardo is now national sales manager, while Mark Zeiger continues as manager of research and development. Mark is an "old-timer" and one of the most knowledgeable persons I know of in the Sanyo field. Moreover, he has a level of interpersonal communication skills which was sorely lacking under the old regime.

As I wrote you in this space before, Sanyo certainly has a right to determine how to market products it manufactures. However, the implementation of that program has been poorly handled to the end that sales have suffered greatly. It was interesting that Sanyo was still producing the same fine, high-quality machines as before, but that the sales effort slowed dramatically almost from the day the new regime came aboard.

I see better days for this market. I know that, under the direction of Eisuke Tomochika, who heads Sanyo Business Systems in the United States, there is a firm and committed desire to a successful marketing effort. I also know that the Sanyo machines — both "old" and "new" ones — are excellent products.

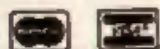
Given good leadership in the sales and marketing area, I think those of us who support Sanyo's excellent products have some exciting and happier days ahead.

— Lonnie Falk

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LETTERS TO THE EDITOR

FOUL PLAY

Editor:

In response to Donald Ellsworth's inquiry (SOFT SECTOR, Feb. 1986) whether the APBA Major League Player's Baseball Master's Edition will work on the Sanyo MBC series computer, I advise him not to waste his money.

I spent almost \$90 on this program (not including sales tax) only to find out, after opening its package and trying it, that it will not work either on the Sanyo-video MBC with double-sided drives, or on one equipped with the Video RAM Board. The program will not load on either model, and in any case it requires the "Alt" key to print out the boxscore — the permanent record of your game. Since I have happily played the table version of APBA Baseball for 16 years, I was bitterly disappointed to discover I couldn't play it on my computer because the software is so slavishly dependent on the IBM standard.

I suggest that APBA Baseball fans, who don't have a 100 percent IBM compatible, write to the game company and to the publisher, Random House Software, complaining about this short-sighted design decision and requesting a generic MS-DOS version that the rest of us in the non-IBM, MS-DOS universe can enjoy.

Jorge E. Amador
Forest Grove, PA

SOFTWARE CATALOG

Editor:

I am a new owner of a Sanyo MBC-555-2 and am interested in knowing if you have a catalog and price list of programs available for my machine.

I'm presently interested in graphics programs that produce bar charts, etc.

Bob McQuaid
Ardmore, PA

Editor's Note: Sanyo currently sells a Sanyo Compatible Software Catalog for \$3. For further information or to order, write: Sanyo Business Systems Corp., 51 Joseph Street, Moonachie, NJ 07074.

MORE MEMORY

Editor:

I want to expand the memory of my MBC-555-2 to at least 512K, but the expansion cards seem expensive, particularly in \$Can.

In the January issue, Bob Jack's article, *Mega-DOS*, says: "You will have to add the additional memory. There are several ways to do this. The most popular way is to 'piggyback' four more banks of 64K memory chips onto the two banks of memory chips which plug into the main computer board..."

This seems to be inexpensive but how could I do it. Could you explain it in great details? Also, what are the other ways? Could I unplug the 64K memory chips and plug 256K memory chips instead?

Marc Routhier
Sainte-Foy, Quebec

Editor's Note: In this issue, Bob Jack explains how to add additional memory by piggybacking. Look for his article, "Piggybacking" on Page 20.

885 SUPPORT

Editor:

Recently, I elected not to renew my subscription to SOFT SECTOR as I no longer own a Sanyo MBC-555. My rationale is that your publication is geared toward the 555-775 and not my recently purchased Sanyo MBC-885.

I'm interested in whether or not you intend to include the 885 in your publication. If the answer is yes, I'll consider resubscribing. Whether or not the published routines will work on my machine is of prime importance, as well as the software supplied by your advertisers.

I am most interested in a good, dedicated publication as the SOFT SECTOR 555 relationship has been. Please advise.

Walt Harris
Mililani, HI

Editor's Note: We do plan to cover the 670, 770 and 880 series computers in future issues. The depth of our coverage will depend on the amount of material we receive from readers like yourself.

PICTURE PERFECT

Editor:

From reading each issue of SOFT SECTOR I have. I got the impression that your staff is very helpful and I do need a little help

The only monitor I was able to receive with my computer was the CRT-30 which is very nice, but of course, has no color. Naturally, Sanyo recommends the CRT-70 as the best RGB monitor, and I have seen many advertisements in SOFT SECTOR where I would be able to obtain that model, but I would like to do a little research first.

I don't know anything about the differences in the various RGB monitors, and since there are so many available, I would greatly appreciate it if your staff could please give me some advice. I would like to purchase the best RGB monitor for the least cost. My only concern is to obtain one that performs all the capabilities that are possible with my model.

Could you please send me some information regarding the differences between the various RGB monitors and give me an idea of what may be the best for the money? Are there any that can perform as well as the CRT-70 for less cost? Also, why does the CRT-70 cost so much?

Any help or advice that you could give me sure would be greatly appreciated. Keep up the fine job with your magazine. It is truly the greatest help I have had so far with my Sanyo.

Louis Harding
Waldorf, MD

Editor's Note: The Sanyo CRT-70 monitor uses a relatively expensive high-resolution picture tube designed specifically for computer use. Many other monitors, such as Sanyo's CRT-30, use tubes similar to those used in home TV sets and provide somewhat less resolution. Any RGB monitor (or color TV with RGB inputs) designed for use with the IBM PC will work with the Video RAM Board and with the MBC-675, 775 and 885 computers. Many of these will also work with the standard RGB output on the MBC-555, but some monitors won't accept its synchronizing pulse signals.

UPGRADES GALORE

Editor:

Last October I renewed my subscription for another year. Boy, was it worth it. In just two of your issues I was able to change my MS-DOS to address my 512K upgrade. I also set up an MS-DOS compatible print spooler (I was using *DS-DOS Plus* for the above upgrades).

Your review of the V20 chip allowed me to upgrade my 8088 to the V20 and to change my MS-DOS boot file, *FORMAT.COM*, and *DISKCOPY* to run with the V20.

Using a disk zap routine from the Michigan Software bulletin board, plus your V20 review, I was able to get my *Cashman* program to run on the V20 chip also. Thanks for a great magazine.

Joe Matherly
Orange Park, FL

PRINTING POINTERS

Editor:

Found you at last! I knew you had to exist, but as you don't appear in the usual outlets here, your publication was unknown. It is only since I discovered Molimerx was importing SOFT SECTOR that I knew my search was at an end.

Thank you for producing an entertaining and very helpful magazine. I think I have learned more about my MBC-555 reading SOFT SECTOR than all the nights spent wading through the manuals when starting off. Please keep up your very high standards.

As I have only been receiving the magazine from the November '85 issue, I don't know if the "Helpful Hint" listed below has been covered in a previous issue. Anyway I am sure you will use it if you feel it merits inclusion.

I run a Qume-compatible printer with my system (Daisytype 2000). A more pleasing result is obtained using a 12-pitch elite wheel and do the majority of my work with this set up. *WordStar*, however, is defaulted to print in 10 pitch, with CTRL PA to set the alternate 12 pitch.

I became more and more frustrated with having to remember to put either CTRL PA or CW 10 at the beginning of each document or letter I produced, so I went back to the installation manual to see if that could help with my problem.

The manual suggests that the printing pitch default can be altered by selecting 'D' — Custom Installation of Printer from the *Install* menu, and then 'Q' — Character Pitch, and inserting the appropriate ESC sequence to enable the required default setting. I tried every permutation of the required sequence without success.

I then wrote to Dr. John D. Lee and Timothy D. Lee, our *WordStar* "gurus" to ask their help. They came up with the following:

"Using *Install* and typing '+' at the opening menu gets you to the user patchable area. The default value for the Standard Print Width is stored at Location: INITPF+16 (in *WordStar* 3.2 and later) where the current value is 0Ch (12 decimal), this needs to be set to 0Ah (10 decimal) to effect 12 pitch as the default."

See Page 16 of the Quick Reference part of the Sanyo Micropro Manual under "CWn" for a fuller explanation of why these numbers are selected.

I implemented these changes through the *Install* program with complete success and now can forget the drudgery of setting printing widths at the start of every document.

Brian Pogson
Worthing, West Sussex
United Kingdom

UNBELIEVABLE SPEED

Editor:

I am pleased to report that I, first of all, made all of the speed-up patches for *WordStar* printed in SOFT SECTOR magazine. The speed up in the video board mode was fantastic. With my three-color screen, it is unbelievable how fast *WordStar* is, and with very clear text quality.

Upon reading the advertisement about *FastStar* by PT Software, I decided to purchase it for the low price of \$20. I must say that this is even more unbelievable. The speed up is faster in all aspects of *WordStar*. Even menu scrolling is very fast. It even speeds up *WordStar* in Sanyo regular mode, to the point that it is acceptably faster in all aspects; although not as fast as in the video board mode.

I also used *WizStar* from SOFT SECTOR magazine to obtain the extra 10 PF keys. I may be mistaken, but it seems that *FastStar* works even better when you have run *WizStar* on *WordStar* also.

The *FastStar* "RAM disk" feature seems to be even a better feature than A-OK's *Turbo Drive 550*, in that you do not have to put *COMMAND.COM* onto the *FastStar* RAM disk as you do with *Turbo Drive 550*. More memory seems to be available. The *FastStar* RAM disk uses only 73K of RAM.

In the video board mode, *WizStar*'s first 10 PF keys will not show when *WordStar* first comes on. I found out that in order to get all 20 PF keys to show on the screen, you have to first run a program from the opening menu's 'R' option to run a program. I run *CHKDSK* and "magically" all 20 PF keys will appear onscreen in beautiful color.

My color monitor is the Taxan RGB 420. I do not have the text clarity problem mentioned in the Silver Fox review in *Byte* magazine, January 1986, in video board mode.

John N. Logreco
Los Angeles, CA

SEARCHING FOR GAMES

Editor:

We have a Sanyo 550 with two disk drives. Your magazine has been very helpful at various times. We are interested in purchasing some games with good graphics that are action games, not strategy.

Can any of your readers recommend any that they currently have?

I purchased *DC-10* after being told by the dealer that it had "good graphics," only to find it is an instrument panel.

Also, can anyone recommend the cheapest dealer from which to purchase these? We will probably need a joystick, too.

Thank you. Please write to me at 1910 Camberly Drive, 44124.

Linda Stavits
Lyndhurst, OH

PAR
AVION

Sanyo BASIC to PC BASIC Converter

Have you ever written a great program and then tried to show it to your friend — the one with the IBM PC? If so, you have seen the minor problem which occurs, an error called "Direct Statement In File." This will also occur if you go from a Sanyo without the Video RAM Board to a machine with one. The cause of this problem is the line feed characters Sanyo BASIC inserts. PC BASIC does not recognize them.

This program will remove the line feed characters. It works by OPENing the BASIC program as a file and SETting it 128 bytes at a time. It then checks each byte to see if it is a line feed character, CHR\$(10). If it is, it changes it to a space. Then it PUTs the record back onto the disk. If you wish to watch it work, insert PRINT E\$ at Line 405. It should print out all on one line since the line feeds have been removed. However, if you load and list the program, it will still list normally. If E\$ prints out as a bunch of garbage, you did not store the program in ASCII format.

The first thing you must do is save the program in ASCII format with the SAVE "filename",A. Then go back to DOS and find out how many bytes long it is. A word of caution: The length will be different after you save it in ASCII format.

When you run the program, it will ask for the filename. This includes the extension and disk drive, if required. Then it will ask for the number of bytes in the file. The next thing you will see is a statement telling you which record it is working on. This was included to prevent you from thinking it is caught in a loop and panicking on long files. The program can take a couple of minutes to run if the file is long.

When it is completed, the program you removed the line feeds from should run on a PC. However, you may still get some syntax errors because of differences in Sanyo BASIC and PC BASIC.

Mike Albers holds a degree in mathematics and works as a technical writer. He is currently attempting to market a retirement plan accounting program. He may be contacted at 106 Virginia Place, Cary, NC 27511, (919) 469-3738.

By Mike Albers

Move your 550/555 programs to PC BASIC

The listing: LFREMOVE.BAS

```

10 *** THIS PROGRAM WILL CONVERT A PROGRAM WRITTEN IN SANYO BASIC
20 *** SO IT CAN RUN ON AN IBM. IT OPENS THE PROGRAM AS A FILE AND
30 *** REMOVES ALL THE LINE FEED CHARACTERS. THE PROGRAM MUST FIRST
40 *** BE STORED IN ASCII FORMAT. SOME SYNTAX ERRORS MAY STILL OCCUR
50 *** DUE TO DIFFERENCES IN SANYO BASIC AND IBM BASIC.
60 '
70 DIM C$(128)
80 '
90 CLS : LOCATE 10,10 : INPUT "NAME OF FILE "; A$
100 LOCATE 11,10 : INPUT "NUMBER OF BYTES IN FILE "; BYTES
110 '
120 OPEN "R", #1, A$, 128
130 FIELD #1, 128 AS F$
140 '
150 FOR J = 1 TO BYTES/128
160 '
170 *** PRINT OUT NUMBER OF RECORD BEING WORKED
180 '
190 CLS : LOCATE 10,5,0
200 PRINT "Record "; J; "of "; BYTES/128; "is being handled now."
210 GET #1, J
220 '
230 *** LOAD C$() WITH VALUES FROM THE DISK
240 '
250 FOR I = 1 TO 128
260 C$(I) = MID$(F$,I,1)
270 NEXT I
280 '
290 *** REMOVE THE LINE FEEDS
300 '
310 FOR I = 1 TO 128
320 IF C$(I) = CHR$(10) THEN C$(I) = " "
330 NEXT I
340 '
350 *** PUT C$() IN FORM TO LOAD BACK ON DISK
360 '
370 E$ = ""
380 FOR I = 1 TO 128
390 E$ = E$ + C$(I)
400 NEXT I
410 '
420 LSET F$ = E$
430 PUT#1, J
440 '
450 NEXT J
460 CLOSE #1
470 END

```

SS

ASK SANYO

The following questions have been answered by personnel at Sanyo Business Systems Corp. as a service to SOFT SECTOR readers. Should you have a question, mail it to: 51 Joseph Street, Moonachie, NJ 07074.

Q. I bought a video board and tried a new "out of the box" Lotus. It does not display to the screen although it seems to load. It also appears to run. I thought the video board allows Lotus to run. What gives?

Alvin Jones
Fayetteville, NC

A. The biggest problem with installing Lotus 1-2-3 on any system is choosing the correct configuration. If you are using an RGB monitor with your system, install 1-2-3 as IBM color. If you are using a composite black and white monitor, install 1-2-3 as IBM black and white. Never install Lotus as IBM mono, since this assumes video RAM at Address 80000 (Hex). The Sanyo video board emulates the IBM CGA and not the monochrome adapter. If Lotus is installed as IBM mono, nothing will appear on the screen.

Q. I'm especially interested in the PeachText 5000 software series. I tried running it on my Sanyo MBC-555, with no success, after configuring it for the IBM PC. If the PeachText package is compatible with the IBM PC, is it compatible with the addition of a video board to the MBC-555?

Gary A. Jacobs
Redlands, CA

A. We have tested PeachText 5000 on the MBC-555 with the video board. The version tested was 2.11. The editing, printing and disk functions appear to work satisfactorily. However, because of the size of the program, it was impossible to test every function of the software. Therefore, while we believe PeachText 5000 will function correctly, we cannot guarantee that every phase of the program will work as it does on the IBM PC.

Q. I purchased a Sanyo MBC-775 in June and experienced two hard disk failures and three weeks of problems getting it to recognize the 640K of memory which I purchased. The memory problems were encountered by the dealer. An additional problem of getting CalcStar and WordStar to run was finally resolved by another customer who told us to restrict the memory to 256K and both would work. Finally, I got the machine home on July 20 and all was finally working fine until I was burglarized on July 22 and the MBC-775 was taken.

In September I purchased another 775 and the dealer could not make it recognize the hard disk, or the memory simultaneously. He tried to persuade me to switch to the IBM but I remained stubborn in my loyalty to Sanyo. I had owned an MBC-1000 for four years. After many calls to Sanyo, the hard disk manufacturers and two MBC-775s we were forced to give up. I purchased instead an MBC-885. Promptly the hard disk failed and had to be replaced, but all has been perfect ever since.

I am curious if other users have encountered similar problems, and wonder why Sanyo was unable to assist us. They could have lost a sale and a lot of good will. I work on an IBM-XT at my office and have yet to experience any similar problems.

Ann Guiles
Miami, FL

A. I am sorry you have had problems getting hard disk systems to work with your MBC-775. I do not remember hearing from you but if you had contacted us, we would have provided you with a list of controllers we have tested and our PC compatible computer line.

Among the controllers we have found to work satisfactorily are:

Adaptec 2010A
DTC
SMS Omti 5510 (half size for the MBC-675)
Centan NDC 5027
Xebec

Western Digital also claims they have a board that has been modified for the Sanyo line (it requires a ROM that can be accessed at 8 MHz). We have not had the opportunity to test the board yet.

Be aware that all the controllers (except the Adaptec 2010A) require a ROM that matches the drive type. Consult the manufacturer of the controller for details as to which ROM must be used. The Adaptec allows the user to choose the parameters of the drive via software.

Q. I would like to say how much I enjoy your magazine. Being the owner of a Sanyo MBC-555, I find your magazine very helpful. I've run into a problem with finding hardware or programs that will do computer graphics on this machine.

I'm a commercial artist with an associate's degree in computer programming. My wish is to design logos and illustrations and also to digitize video composite signal from a video recorder into my computer and be able to manipulate a still frame.

I have the Picasso program and love it very much. I have, in fact, designed a logo with this program, but using a joystick is very difficult. Is there a graphics tablet I can purchase that will work on this program, or will the program have to be rewritten to handle such a request? If I'm not mistaken, the graphics tablets input through the RS-232 port.

My needs are to utilize my computer in design using a pen or graphics board. I have my own video equipment and would like to input a still frame from video into my computer. I would like to be able to change and print this illustration onto my Epson printer or to output the final result back to video.

My let-down is, all these great things are available for the IBM PC and I don't know if they will work on the Sanyo. Please let me know of such a program and graphics tablet are available for the Sanyo.

Guy Fanguy
Houma, LA

A. It is possible to add a serial port to the MBC-555. Sanyo sells such a product.

Unfortunately, adding a serial port is not enough to get many software packages to work. Most of the software that makes use of a serial port to run device drivers for graphics tablets and mice, will probably not work with the MBC-555. This is because the port addresses on the Sanyo are different from those on the IBM PC and the actual UART used has a different structure.

If you would like to write your own software to make use of the serial ports, Sanyo will provide you with the information needed. However, patching existing software to work with a different UART can be very difficult.

Q. I am an avid reader of SOFT SECTOR and I enjoy reading solutions to Sanyo user problems. I am also a Sanyo user with a problem, but my computer is a Sanyo 1250 which is not featured in SOFT SECTOR. The 1250 is CP/M 2.2 operated with high resolution graphics, (640 by 400) green monitor. It runs MicroPro software such as WordStar, DataStar, etc., and a graphics program which works very well on the screen but will not print

either on a Tally 180 T or an Epson dot matrix printer. The manual gives an H COPY command which should print from the screen. I have exhausted all possibilities including modifications with the HSM utility.

I would like to know if you are aware of a solution to this problem or if you know of other 1250 users who have solved the problem.

Andy LaCombe
New Rochelle, NY

A. The screen dump program (and consequently the H COPY command of BASIC) is meant to function with a Hitachi printer that is only available in Japan. To change the program to function with other printers would require that the ROM be completely reprogrammed for the particular printer. Unfortunately, we do not have the information needed to do this.

Q. I currently own an MBC-550 with 512K and am using SS/DD disks and a Panasonic KX-P1091 printer.

In wanting to upgrade this system with double-sided drives, a number of questions have surfaced. Per Jessie Bunch's article, "Upgrading Your MBC-550/555 To Double-Sided Drives," SOFT SECTOR, September '84, Page 15; the correct drives are TEAC 55Bs. Is this the same as FD-55B? Also, current advertising reveals TEAC 55F drives are now available. Is there a difference? If so, what? Can they readily be used in the 550 with my bundled software?

Also, I have about 50 diskettes formatted with DOS 1.25 and crammed full of programs, spreadsheets and text. If 2.11 formats nine tracks, how can I get all my information transferred from 1.25 formatted diskettes which use eight tracks? Does 2.11 provide a conversion utility for this purpose or have I "lost" all my data to reinput upon upgrading to 2.11?

Additionally, where can I get reference manuals for BASIC and WordStar?

Finally, I've heard DOS 3.1 is now available for the MBC-775. Is it to be used on the 550/555 series as well?

Your assistance would be greatly appreciated.

Dave Uhley
Captain USMC
Quantico, VA

A. You may use the TEAC FD-54B or FD-55B as double-sided drives on the Sanyo MBC-555 series. Other double-sided drives will probably work, but the

above mentioned drives are the ones that Sanyo uses and the ones we recommend.

If you want to copy the files from a single-sided to a double-sided disk, do the following:

- 1) Format a double-sided disk.
- 2) Put the blank, formatted, double-sided disk in Drive A and the single-sided disk in Drive B.
- 3) Use the COPY command to copy all the files from Drive B to Drive A (i.e. COPY B:*. * A:).

Reference manuals are available from your Sanyo dealer. If your dealer does not have the manuals, he may order them from Sanyo. You may call Sanyo Business Systems directly to get the location of your nearest dealer. The number is (201) 440-9300.

PC-DOS 3.1 runs on the MBC-775/885/675. Sanyo will not be introducing a version of MS-DOS 3.1 for these machines. We will supply MS-DOS 3.1 for the new 80286 based computer — the MBC-990 series.



PRICKLY-PEAR SOFTWARE

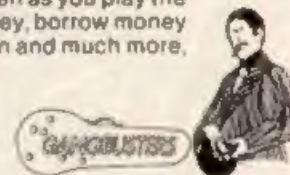
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"filename".BAT, your commands, and finally CONTROL-Z by itself as the last line of your file. My batch file is simply:

```
COPY CON "DOGLETHD.BAT"
FF/I
BASIC"GRAPHMER.BAS"
BASIC"DOGLETHD.BAS"
CTRL-Z
```

To explain the above commands, FF/I is the command to load *Freeze Frame* (my screen dump) into memory, where it simply waits until you are ready to use it. The second command will load BASIC and then execute the GRAPHMER program which is what I named Listing 2 from

Sketch-It (don't ask why I chose that name because I simply can't remember). The final command will again load BASIC since control had been passed back to the system and will then execute the file which tells the printer how and what text to print.

Running this batch file is not completely automatic as you need to tell your computer when to print the logo and possibly to realign the paper. But get it started by simply typing in the name of your batch file; mine is DOGLETHD. The computer should first load your screen dump. BASIC will then be loaded and soon your drawing will appear on the screen. When your Ready prompt appears at the bottom, tell your screen dump to print.

With my screen dump, I can press BREAK as soon as the logo is printed so I don't have to wait for it to go across the rest of the monitor screen, and so it doesn't print what I have placed in the lower left-hand corner of the screen. The computer is now waiting for you to pass control back to the system so it can complete the batch file. You may need to first back your paper up a little so that the text you are going to print next is beside your logo. Then, simply type SYSTEM and BASIC will load. Your printer file, and finally your business name and address will be printed out.

All of this is not nearly as difficult as it may seem and once done, very easily prints a professional letterhead.

The listing: DOGLETHD.BAS

```
5019 LPRINT CHR$(27);"2";
5021 LPRINT CHR$(27);"1";CHR$(56);:LPRINT"
8":LPRINT CHR$(27);"W";CHR$(8);:LPRINT CHR$(10);
5023 LPRINT CHR$(27);"1";CHR$(52);:LPRINT"
TERRY & SUE ANDERSON"
5025 LPRINT CHR$(27);"1";CHR$(52);:LPRINT"
369 BRINER ROAD"
5027 LPRINT CHR$(27);"1";CHR$(52);:LPRINT"
MARION, IN 46953"
5029 LPRINT CHR$(27);"1";CHR$(52);:LPRINT"
(317)662-9333"
```

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5

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BASIC TRAINING

Timing Your Long-Distance Calls

By Fred Blechman
Soft Sector Contributing Editor

Long-distance phone calls are expensive, and getting more so all the time. Telephone timers or a stop watch can keep track of the time you've been talking, but they don't tell you how much the call is costing.

This program (Listing 1) provides a real-time screen display of the number you are calling, the charge for the first minute, the charge for additional minutes, the number of seconds to the next charge, the total cost so far, and the number of minutes for which you've been charged.

Since the screen shows you the accumulated cost at any point in time, you will be more "cost conscious." Also, since most phone companies charge only for full minutes, and the screen displays the seconds counting down to the next charge, you can either extend your conversation without additional charge for the rest of that minute, or end the conversation before you're charged for another minute.

Fred Blechman, an acknowledged authority on home computers, has written several articles and books related to microcomputers. He is self-taught in electronics and computer BASIC programming and specializes in writing for beginners. Fred may be contacted at 7217 Bernadine Ave., Canoga Park, CA 91307; (818) 346-7024.

Copyright © 1985 by Fred Blechman

Running the Program

Figure 1 shows the initial screen and Figure 2 is a run beyond that point. If you request specific instructions with a 'I' for "yes," then the additional screens describe the general rules and discount periods for long-distance calls. However, these rules and time periods may vary in your area, so consult the front pages of your local phone book for the information that applies to your locality.

Rate Information

You'll need to refer to your phone book before making the call to determine the rates that apply to the specific destination being called at the time you're calling. You can also get rate information from your information operator.

Entering Data

You'll be asked for the initial time period. This is (usually) three minutes for operator-assisted calls or one minute for direct-dial calls. Next you enter the charge for the initial time period, then the charge for each additional minute.

The screen clears and waits for you to press ENTER. Make the call and when the party at the other end picks up their receiver, press the ENTER key. This clears the screen again and starts the timing.

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Screen Display

A summary of the data you enter (phone number and rates) is displayed, and an empty rectangular box is drawn using graphics characters. Notice that about two seconds is used before the display starts counting down, so the initial countdown number is either 58 (for a one-minute initial rate) or 178 (for a three-minute initial rate.)

Under the empty box is the reminder to press BREAK to stop the program. As the seconds count down nothing else happens until the countdown reaches zero, when the total charge and total time appear in the box. This is updated at the end of every minute.

Accuracy

Don't expect the counting of seconds and minutes in this program to be perfectly accurate. The count is affected by both ambient and computer temperature, and varies from one machine to another. The counting is controlled by the FOR/NEXT loop in Line 690. I found the number 616 with my Sanyo 550 to yield an accuracy of within a second in five minutes.

To speed up the counting, change the number 616 in Line 690 to a lower number. Even one count makes a small difference over a minute. To slow down the counting, make 616 a higher number. Use a stopwatch or second-counting digital watch to compare the screen counting with your accurate reference.

Program Modules

100 — 260	Program introduction
300 — 390	Data input
400 — 440	Data summary
500 — 540	Draw empty rectangular box
600 — 730	Countdown, calculate and update
1000 — 1220	Additional instructions

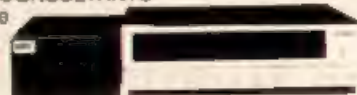
Real Men Don't Use Floppies

THAT'S RIGHT! And neither do computers with real jobs to do. You see, floppies have very limited capacity with slow access speeds and data transfer rates. Impotent, so to speak. Between 70 and 90 percent of your computer's time is spent while data is getting up to the screen or to a printer or to memory. Such a waste of valuable time ... and unnecessary, too.

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P.S. Inquiries receive a free "REAL MEN..." sticker for your wimpy computer.

Figure 1: Toll-Charge Initial Screen

Phone Toll-Charge Program

Use this program whenever you make a telephone call out of the local area - especially long distance. The display will show you how many minutes you have been charged, the cost so far, and the number of seconds to the next additional charge, counting down.

Who are you calling? (123) 456-7890

Do you want specific instructions? Yes=1, No=2? 1

Figure 2: Toll-Charge RUN

Your charges are based upon three things:

- 1) Initial time period (1 or 3 minutes)
- 2) Initial charge (for the initial period)
- 3) Additional charge per minute after initial period

If you use an operator to assist you, the initial time period is 3 minutes. Direct-dial is 1 minute.

The charges are based on the destination called. These are usually listed in the front of phone book, or call operator for the rates.

Do you want information on discount periods?

Yes=1, No=2? 1

There are two discount rates in the continental U.S.A.:

35% discount: 5 p.m. - 11 p.m. Sunday - Friday
8 a.m. - 11 p.m. holidays
60% discount: 11 p.m. - 8 a.m. every night
8 a.m. - 11 p.m. Saturday
8 a.m. - 5 p.m. Sunday

Charges are based on time at calling point.

Press enter to enter time and charge data ?

Telephone Toll Totalizer

What is the initial time period (minutes)? 1

What is the initial charge (cents)? 25

What is the additional charge per minute (cents)? 12

When the party at other end picks up the receiver press enter to start timing ?

On your call to (123) 456-7890

The initial cost of the first 1 minute(s) is: \$.25
the additional cost per minute is: \$.12

Seconds to the next additional charge: 31

The total charge is now: \$.59

Total time charged is now: 3 minutes

Press break to stop counting.

The listing: TOLLCHG.BAS

```

100 REM *****
110 REM *      (C) COPYRIGHT FRED BLECHMAN 1984      *
120 REM *      Telephone Toll-Charge Program        *
130 REM *      For Sanyo MBC 550/555                *
140 REM *****
150 REM * LINE 690 CONTROLS THE SECOND-COUNTING ACCURACY *
160 CLS : PRINT : PRINT : PRINT TAB(25);
170 PRINT "PHONE TOLL-CHARGE PROGRAM": PRINT : PRINT
180 PRINT TAB(10); USE THIS PROGRAM WHENEVER YOU MAKE A TELEPHONE CALL"
190 PRINT TAB(10)"OUT OF THE LOCAL AREA - ESPECIALLY LONG DISTANCE. THE DISPLAY
"
200 PRINT TAB(10)"WILL SHOW YOU HOW MANY MINUTES YOU HAVE BEEN CHARGED,"
210 PRINT TAB(10)"THE COST SO FAR, AND THE NUMBER OF SECONDS TO THE NEXT"
220 PRINT TAB(10)"ADDITIONAL CHARGE, COUNTING DOWN....."
230 PRINT : PRINT TAB(10);
240 INPUT "WHO ARE YOU CALLING.....";B$:PRINT :PRINT TAB(10);
250 INPUT "DO YOU WANT SPECIFIC INSTRUCTIONS? YES=1,NO=2";A
260 IF A=1 GOTO 1010
270 CLS : PRINT : PRINT : PRINT TAB(25);
280 PRINT "TELEPHONE TOLL TOTALIZER": PRINT : PRINT TAB(10);
290 INPUT "WHAT IS THE INITIAL TIME PERIOD (MINUTES)";P
300 PRINT : PRINT TAB(10);
310 INPUT "WHAT IS THE INITIAL CHARGE (CENTS)";I
320 PRINT : PRINT TAB(10);
330 INPUT "WHAT IS THE ADDITIONAL CHARGE PER MINUTE (CENTS)";M
340 CLS : PRINT : PRINT : PRINT : PRINT TAB(10);
350 PRINT "WHEN THE PARTY AT OTHER END PICKS UP THE RECEIVER":PRINT TAB(10);
360 INPUT "PRESS ENTER TO START TIMING.....";A$
370 CLS : PRINT : PRINT TAB(10); ON YOUR CALL TO ";B$";....."
380 PRINT TAB(10)"THE INITIAL COST OF THE FIRST";P;"MINUTE(S) IS: $";I/100
390 PRINT TAB(10)"THE ADDITIONAL COST PER MINUTE IS:$";M/100
400 LOCATE 20,20:PRINT "PRESS BREAK TO STOP COUNTING."
410 C=I/100:D=1
420 REM * Draw rectangle with border characters *
430 LOCATE 15,11:PRINT CHR$(201);STRING$(50,CHR$(205));CHR$(107)
440 FOR Z=1 TO 1
450 PRINT TAB(11);CHR$(186);SPC(50);CHR$(186);NEXT Z
460 PRINT TAB(11);CHR$(209);STRING$(50,CHR$(205));CHR$(186)
470 REM * Countdown and update display *
480 T=58
490 IF P=3 THEN T=178
500 GOTO 670
510 LOCATE 16,22:PRINT "THE TOTAL CHARGE IS NOW:$";C;
520 LOCATE 18,19:PRINT "TOTAL TIME CHARGED IS NOW:";P+D;"MINUTES"
530 T=59:D=D+1
540 C=C+(M/100)
550 REM * CHANGE THIS COUNT IF NECESSARY FOR ACCURACY *
560 FOR X=1 TO 616: NEXT X
570 LOCATE 9,18:PRINT "SECONDS TO THE NEXT ADDITIONAL CHARGE:";T
580 T=T-1
590 IF T=-1 GOTO 640
600 GOTO 690
610 REM * Instructions if requested *
620 CLS :PRINT :PRINT TAB(10)"YOUR CHARGES ARE BASED UPON THREE THINGS:"
630 PRINT:PRINT TAB(10)"(1) INITIAL TIME PERIOD (1 OR 3 MINUTES)"
640 PRINT TAB(10)"(2) INITIAL CHARGE (FOR THE INITIAL PERIOD)"
650 PRINT TAB(10)"(3) ADDITIONAL CHARGE PER MINUTE AFTER INITIAL PERIOD"
660 PRINT : PRINT TAB(10)"IF YOU USE AN OPERATOR TO ASSIST YOU, THE INITIAL"
670 PRINT TAB(10)"TIME PERIOD IS 3 MINUTES. DIRECT DIAL IS 1 MINUTE."
680 PRINT : PRINT TAB(10)"THE CHARGES ARE BASED ON THE DESTINATION CALLED...."
690 PRINT TAB(10)"...THESE ARE USUALLY LISTED IN THE FRONT OF PHONE BOOK"
700 PRINT TAB(10)"...OR...CALL OPERATOR FOR THE RATES."
710 PRINT :PRINT TAB(10)"DO YOU WANT INFORMATION ON DISCOUNT PERIODS?"
720 PRINT : PRINT TAB(10);:INPUT "YES=1, NO=2";B
730 IF B=2 GOTO 300
740 CLS : PRINT :PRINT TAB(10)"THERE ARE TWO DISCOUNT RATES IN THE CONT. U.S.A
"
750 PRINT :PRINT TAB(10)" 35% DISCOUNT: 5PM - 11PM SUNDAY - FRIDAY"
760 PRINT TAB(10)" 8AM - 11PM HOLIDAYS": PRINT
770 PRINT TAB(10)" 60% DISCOUNT: 11PM - 8AM EVERY NIGHT"
780 PRINT TAB(10)" 8AM - 11PM SATURDAY"
790 PRINT TAB(10)" 8AM - 5PM SUNDAY"
800 PRINT : PRINT TAB(10)"CHARGES ARE BASED ON TIME AT CALLING POINT!"
810 PRINT : PRINT : PRINT TAB(10);
820 INPUT "PRESS ENTER TO INPUT TIME AND CHARGE DATA.....";A$
830 GOTO 300

```


Would you like to get 512K of memory for \$50? Impossible you say? Not if you use a hardware upgrade technique called piggybacking.

Is piggybacking some crazy hacker technique? Not unless you consider IBM a crazy hacker. Did you know that IBM uses the piggybacking technique to increase the memory in their AT model computer?

Then what is piggybacking? Basically, piggybacking is soldering extra memory chips on top of the socketed memory chips on the main computer board. In this way you pick up all of the signals from the chip below.

The extra memory chips are then controlled by wiring their CAS lines (chip select lines) together in banks. Sanyo must have originally had a 512K computer in mind when they designed the computer because the signals to control four additional banks of memory are present on the board without adding anything.

Would you like to try piggybacking? Well, it's not for everyone. Read on.

Who Should Not Piggyback

If you are not familiar with soldering, it might be better to ask one of your more skilled friends to do it for you. While piggybacking is easy, the use of a wrong soldering device, or sloppy soldering could damage your computer.

Also, by doing the piggybacking, you might void your warranty. If your computer is still under warranty, it might be to your advantage to wait until it is not. However, if you are familiar with soldering, and your computer is not under warranty, you're going to find this project fun. And you're certainly going to save yourself a bundle of money!

Things To Do Before Piggybacking

Before you start on the piggybacking project, make sure you have a DOS which will work with the increased memory. In this way, after you have done the upgrade, you will have a DOS to check your work with.

You can alter DOS 2.11 that comes with your Sanyo (Mega-DOS, SOFT SECTOR, January '86). Make the DOS changes as shown, then put the disk in a safe place for later use.

If you're not familiar with DEBUG, or would rather not become involved with the software end, our own tests have

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Piggybacking

512K for \$50

By Bob Jack

shown that DS-DOS PLUS (from Mich-Tron) works well with this method of memory increase.

Second, alter the power supply as shown on Page 10 of the October '85 issue of SOFT SECTOR. The increased memory will add an increased drain on the power supply, so for the piggybacking to work correctly make this alteration.

Third, you will need 48 4164-15 chips. These are 64K dynamic RAM memory chips. Sanyo's specifications call for 150 nanosecond chips. These chips can be gotten from any of the many mail order dealers. A couple of tips. Do business only with a reputable dealer and get only first quality chips.

Fourth, you will need four 1K ohm 1/4 watt resistors, very fine rosin core solder (.032 diameter), some plastic coated hookup wire and some plastic electrical tape. For this, take a ride down to your local Radio Shack store.

The resistors come in a pack of five, Catalog number 271-1321. The rosin core

solder comes in a 2.5 oz. spool, Catalog number 64-0005. Get the stranded variety of hookup wire, the thinner the better. Any variety of plastic electrical tape will do.

As for equipment, you will need a Phillips head screwdriver, a single edge razor blade, and a very light soldering iron (not iron, not pistol, not blowtorch). A Weller soldering pen with a 1/16" screwdriver tip will work great.

Gather all your equipment and supplies together before beginning the piggybacking project.

The First Step

The first step is to solder the chips together (setting up the stacks). Basically what you will be doing is soldering chips on top of one another. Bend Pin 15 out of the top two chips before soldering. See Figure 1 for details. In other words, no change to the bottom chip. On the top chip, bend Pin 15 straight out, then solder the remaining pins to the pins of the

bottom chip. Now you have a stack of two chips with the top chip having its Pin 15 hanging out.

On the next chip, bend Pin 15 straight out then solder the remaining pins to the pins on the top chip of the stack. Now you have a stack of three chips with the top chip having their Pin 15 sticking out. This is a complete stack. Repeat this procedure, until you have 16, three-chip stacks.

When you place one chip on top of another, make sure they are facing the same way (the notches are both in the same direction).

Do not push the chips down all the way. Leave a little space between them. The notches of the pins of the upper chip should be only about one fourth way (or less) into the pins of the lower chip before soldering.

The Second Step

The second step is to set up the resistors

Take four of them, and solder them together on one end. Let the other ends hang free. See Figure 2 for details on this step.

Next, cut a piece of hookup wire about one inch long. Solder one end of it to the soldered together ends of the resistors. Locate the small hole next to the front end of the CNI connector (hole may be filled with solder). This is an easy way to tap into +5 volts. Solder the free end of the hookup wire into the hole. And finally for this step, cover all exposed wire, up to the resistors with plastic electrical tape.

The Third Step

The third step is to wire the CAS lines of the memory chips. See Figure 3 for details on this step. The memory chips are shown spread out so you can see the wiring. Insert each of the 16 stacks of chips into the sockets. Make sure the notch on the chips is facing the back plate of the board.

Next, cut a piece of hookup wire about

two feet long. Begin at the other side of the board, away from the CNI connector. On the front row, solder the wire onto the middle chip's Pin 15 (which is sticking out).

Peel the insulation away from the wire, about one-fourth inch long, one and a half inches from where you have just soldered. Solder this exposed portion of wire onto the next in the row, middle chip's Pin 15. Repeat this procedure, until you have all eight of the middle chip's Pin 15s, in the front row, wired together.

Peel away a small portion of the insulation and solder the exposed portion of the wire onto one of the ends of a resistor. Cover the exposed part of the resistor which you have just soldered with plastic electrical tape.

Lead the wire over to Chip 74LS138 (Location 11G — marked on the board U82). Put a dab of solder on the leg of Pin 7 as it comes out of the chip. Put another dab of solder on the end of the hookup wire. Hold the wire end onto Pin 7 and touch it with your soldering pen, melting the solder together. Remember, heat damages computer chips. Also, be careful not to drop any solder or make any solder bridges. At this point, stop for a second and pat yourself on the back. You've just wired in one bank.

Repeat this process on the middle chips in the back row. Connect onto one of the other resistors and solder the end of the wire to Pin 9 of the 74LS138. Do the same thing for the upper chips of the front row. Use Pin 10 of the 74LS138, and finally, the upper chips of the back row. Use Pin 11 of the 74LS138.

The Fourth Step

All you need to do now is cut a trace and put a jumper on.

Find chip 74LS02. It's located at 11E and the board is marked U65. Turn the board over, and with a single-edge razor blade, cut the trace going to Pin 8. Turn the board back over to the chip side. Cut a piece of hookup wire about one inch long. Put some solder on both ends. Put a dab of solder on the top of Pin 8 and on the top of Pin 9 of the 74LS02 chip.

In the same way you soldered the other lines, solder one end of the wire to the top of Pin 8. Bend the wire and solder the other end to the top of Pin 9.

Go over the entire job, put plastic electrical tape over any exposed wires, joints, etc. Push all the wires down, as flat as possible on the board.

That's it. You now have a Half-Meg computer and you did it yourself! What's more important, you probably saved yourself a bundle of money.

Testing

Put the computer back together. Make sure you put all the plugs together correctly and put the cover back on. Do not put the screws into the cover until you have tested the increased memory.

Turn the computer on and put your Mega-DOS disk in Drive A. The DOS should boot as normal.

Next, run the CHKDSK program. It should come back and tell you that you have a total of 523776 bytes of memory. Also, it should tell you that you have 400 and some odd thousand bytes of free memory (total and free depends on what DOS you are using).

You will not need a memory checking program because the DOS checks the memory for you. CHKDSK will show less than the full amount if there is a problem with the memory. More than likely everything will check out correctly. If so, put the screws into the cover and jump over the trouble-shooting section.

Trouble-Shooting

If the drives do not turn on, don't panic. Turn the computer off. You have not cut the trace correctly or put the jumper on correctly. Go over Step 4 and correct the problem.

If the CHKDSK program shows that you have less than the 512K total bytes, you have not wired a bank correctly or you have a bad memory chip.

You can determine which bank is giving you a problem by subtracting 65536 from 524288. The 65K represents one bank, and the 524K represents total possible memory. The banks are set to come off of the 74LS138 in the order of 7, 9, 10, 11. Where 7 is the next bank after 256K, and 11 is the top bank. All good memory above a troublesome bank will not be shown.

Should you have a problem with the extra memory, turn the computer off. Determine which bank is giving problems. Go over steps one, two and three with that bank. Correct the problem.

If there is no problem, you may have a bad memory chip and may have to replace the chip or the bank. Generally, having a bad chip is rare unless an excess amount of heat (by using the wrong soldering device) has been applied to the chip or the chip has been exposed to static.

Outside of the pure pleasure of tinkering with your computer, you've probably saved yourself \$200 to \$500 dollars by piggybacking -- as opposed to any other method of increasing your memory.

So what do you do with all that extra memory? Well, when you get that much memory, it expands the power of your computer enormously.

You can now construct giant spreadsheets. You can now run memory resident programs (CornerMan, Omega, SideKick, etc.) with your largest programs. When you run Sanyo's BASIC, you have 370K or so free. And the best application of all is running a RAM disk. This speeds up any program which uses the disk a lot, to the speed of memory access.

Give piggybacking a try -- you and your wallet will like it.

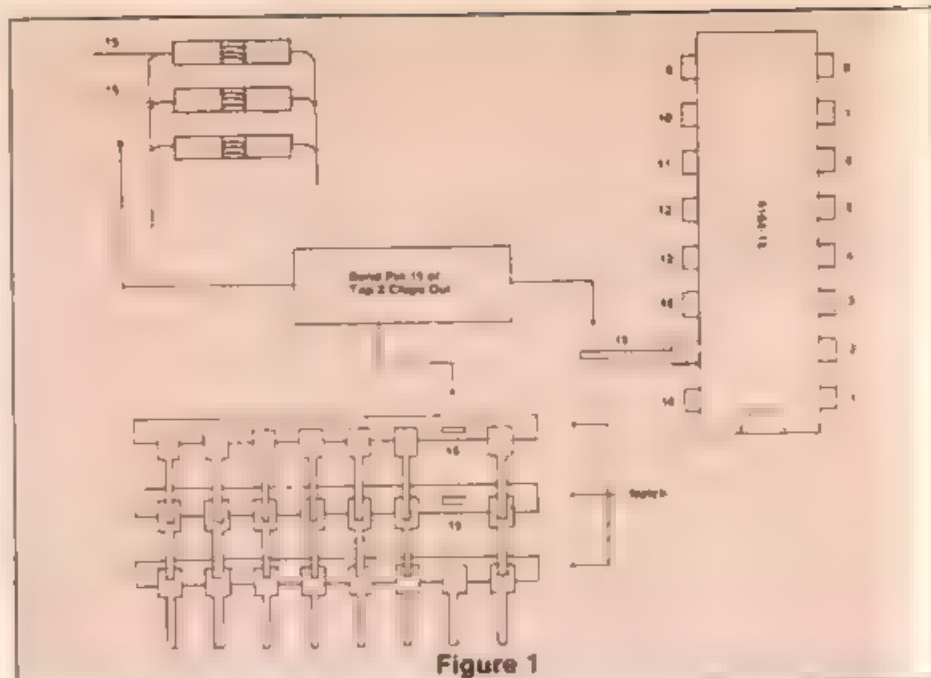


Figure 1

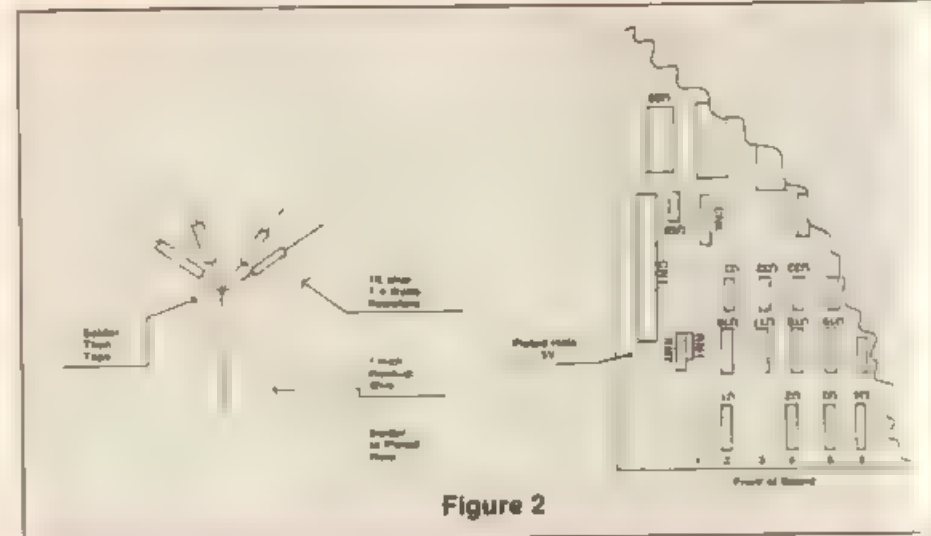


Figure 2

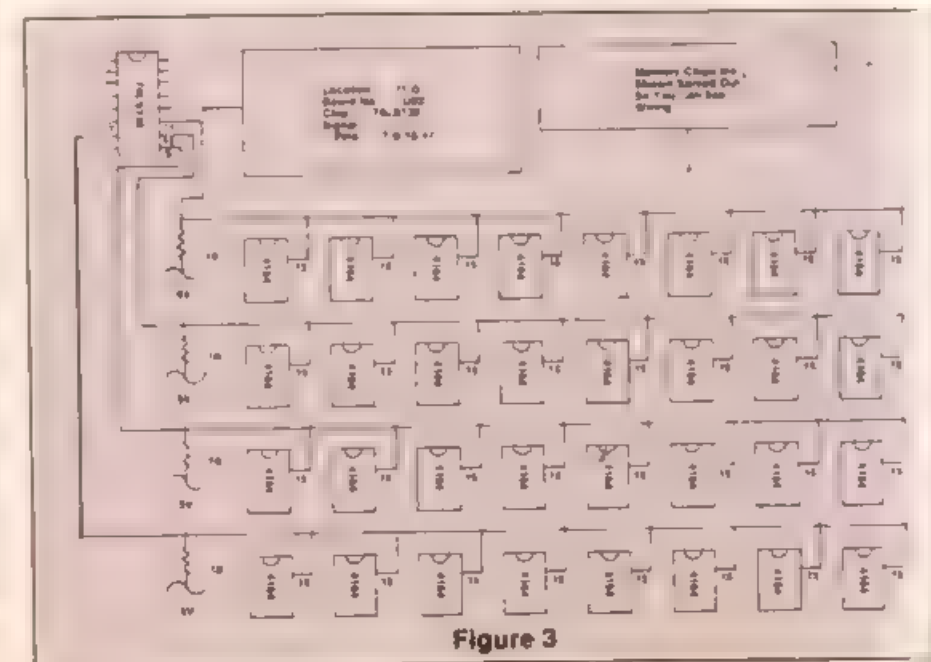


Figure 3

REVIEWS

Software review

Thoroughbred Handicapper — An Odds-On Favorite

There you are at the track, your white suit glistening in the sun. Time for the fourth race. Calmly you look over the program you made the night before. "Looks like Dead Cat is the bet," you say to yourself. You make your way to the window and at the last moment, you put \$100 on Dead Cat to win. The blonde behind you says "Dead Cat? Dead Cat is going down at 10 to 1!" "No sweat, baby, easy come, easy go."

You go back to your seat and take another sip of mint julep. You keep your composure as Dead Cat wins by seven lengths. Then you look over your printout for the fifth race.

An unlikely scenario? Maybe, but *Thoroughbred* by Federal Hill Software will help make it just a little more likely. *Thoroughbred* was written by Leonard Hyre. If you read SOFT magazine, you know Leonard Hyre by the excellence of his software. *Thoroughbred* won't do anything to damage his reputation.

I can't get the idea that you are being promised a free ticket to fortune wealth. That is not the case. If you are the leading handicapper in your part of the country, you probably don't need a computer program to tell you how to bet. If you just go to the track now and then, buy *Thoroughbred* and try it.

From where I work, I can look out the window and see the famous twin spires of Churchill Downs. Although I don't know much about the sport, I have been there a few times. I know many people who know more about racing than I, and I asked them to help me evaluate this program. They all found it useful and even raved about it. My friend, Mike, found that if he put money on *Thoroughbred's* pick to show, he could cash in on every race. Several people said you can't make money that way. You have to bet to win. Friends, I can assure you that if you bet to win, you will not cash in on every race. If you could, I wouldn't be writing this review. I would be at the track getting so rich I'd have to hire an accountant.

Federal Hill does not promise wealth. What they do say is that *Thoroughbred* is a useful and accurate handicapping program. From what I have seen, they are absolutely correct. *Thoroughbred* is right 75 to 85 percent of the time when given

the correct information. My friends tell me that any good handicapper can do as well. That's great if you are a good handicapper. Most people are not.

I have been told that *Thoroughbred* is more suited to East Coast tracks than to Midwest tracks. For example, the program suggests that you not bet on shippers. Churchill Downs runs a lot of shippers. It is not built to house enough horses for a whole season. Be that as it may, *Thoroughbred* works well at Churchill Downs. It certainly works better than any of the tips I have been given on my few visits to the track.

If you have any interest in horse racing at all, I suggest you purchase a copy of *Thoroughbred*. There are also programs in the same series for dog racing and harness racing. There is some harness racing in Louisville, but no dog racing. If either of these is your passion, I suggest you look into the programs from Federal Hill. I assume they are as good as *Thoroughbred*, but I have not looked into them myself.

Thoroughbred runs on everything. It runs on the MBC-555 with or without the video board. It runs on the MBC-775, the IBM PC, Compaq, Zenith, Columbia and others. It does not run on the Corona due to a difference in the way the Corona handles color commands. A Corona with a color card presents no problem.

Don't forget to wear your white suit to the track. If you should come to Kentucky during the spring meet, whatever you do, don't drink a mint julep. Those things are for tourists only. Do bring *Thoroughbred* and a portable computer to run it on. Above all, stay cool.

(Federal Hill Software, 825 William Street, Baltimore, MD 21230, 301-547-1447, \$49.95)

— Jim Pile

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There is a great deal of math involved in both pursuits and this can prove daunting to anyone, particularly the self-teaching neophyte. To the rescue comes *Astrology by Prickly-*

*MN residents must add 6% Sales Tax

— Monica Deth

MIDI

— Edward Champion

A dialogue is a specific "conversation" between your computer running *Respond* and another system. Each one consists of up to 13 lines containing the following components. Prompt, Wait, JOT, CMD, Data and Next. The dialogue is executed line by line with the combination of parameters in the Prompt, Wait and JOT determining the sequence of operations. The dialogue will wait indefinitely for characters put in the Prompt columns, or if a time is entered in the Wait column, it will wait for the prompt *or* for the time to elapse whichever comes first. Put a dialogue line number in the JOT (jump-on-time-out) column and the execution will jump to that line number if the desired prompt is not received within the specified time in the wait column. Adding to the capability, we can put one of about 30 commands in the CMD column. Here's a partial list of the commands: Send, Accept, Dcon, Dcoff, Uptext, Rxmodem, Sxmodem, Snap, Call, Chain

Display, Return, Stop, System, Time, Clear, Cursor, Beep, Break, Discon, Sethigh, Setlow, Onhigh, Onlow, Dialdir, Dial, Aa, Aaoff, Data, Voice

Describing some of the more powerful commands, the Sethigh low commands can set the DTR and RTS lines high or low. The Onhigh low commands check the DSR, CD (carrier detect) and CTS lines and cause the dialogue to execute specific lines based upon these conditions. The Time command will wait for a specific time to arrive before progressing. This allows *Respond* to do unattended operations, an extremely useful feature. Snap stores the current 24 screen lines in a named disk file. The Calling, Chain, Return, etc., commands allow you to actually build up a "smart computer program" with subroutines to perform even the most complicated communication task. You can get a hint of what some of the other commands do from their cryptic names.

What won't it do? Other than being limited to only Xmodem file transfer protocol and ASCII text capture mode, I couldn't find any weaknesses in *Respond*. The only "bug" I found was the blinking cursor that failed to keep up with me! It would be off on one part of the screen while I was typing (without a cursor) somewhere else. I tried *Respond* with and without ANSI.SYS installed, in both the TTY and VT100 modes and had the same problem. I'm sure there is a simple cure for this annoyance.

As for ease of operation and the quality of the documentation, I was at first convinced one had to be a computer whiz to set up *Respond*. But after about 30 minutes of hands-on I'm convinced anyone could conquer *Respond*, assuming they know what carrier detect means, and have the courage to punch the cursor arrows, PG UP, PG DN keys and the minus/plus keys. It's almost that simple to set up a profile and dialogue. *Respond* is smart enough to actually put your selection cursor on the next logical step to be performed.

Experimenting with the example CompuServe demo dialogue, modifying it to access via our local Tymnet number, I found *Respond* fairly easy to use. Unfortunately, I found out that the CompuServe Demo does not work through Tymnet, so I had to dial it long distance to try it out. Definitely needed to accomplish anything with *Respond*, is a template showing the key functions. I was miserable until I had scanned through the *Respond* text and made up a concise list of key commands. The documentation I had was Version 3.0, with errata pages to bring it up to version 3.2. I found jumping between the added pages a little frustrating. The biggest feature, and a definite plus, was the removal of copy protection from *Respond*. The documentation has information on the various terminal emulation modes, contains several example dialogues, which are also on the disks, and overall is well prepared. The schematic on Page 2-2 has an error, showing the ground wire Pin 7 of the RS-232 interface drawn incorrectly. It goes from Pin 7 to Pin 7 of course.

In summary, I think *Respond* is well worth the price. It contains unique features that will serve your business needs.

(Software Synergy, Inc., 466 Main Street, New Rochelle, NY 10801, 914-633-0400, \$195.)

— Ambrose "Bo" Barry

Software review

Macro-Toolkit and ASCII Toolkit — Unique and Useful

Macro-Toolkit and *ASCII Toolkit* are two separate programs that provide the Lotus 1-2-3 or Symphony user with a straightforward method of creating and implementing macros and custom characters and displays to use within the Lotus environment.

System requirements for the *Macro-Toolkit* are the Mx 550/555 series, MS-DOS 2.11, the Video RAM Board, a 360K drive, at least 256K RAM and either Lotus 1-2-3 Release 1A (or 2) or Symphony.

Macro-Toolkit contains four toolkits which together present to both the novice user and the seasoned Lotus user a set of useful, well-designed macros for repetitive and/or complicated command sequences. The Macro 1 file contains all 17 macros with help menus and requires 16K of memory. The remainder of the files require from 6K to 10K of memory. In working with a spreadsheet on a 256K machine, judicious use of memory may require using the smaller macros or importing individual macros into the spreadsheet.

I found the manual instructions to be somewhat unclear, however that may be due to my limited familiarity and use of the normal Lotus macro capabilities. With a concentrated effort, study of the supplied manual and the Lotus manual, I was able to learn much and to actively use the macros. The program provided great help with even the simplest spreadsheets.

During the course of review, I found *Macro-Toolkit* to be almost indispensable for the capability and price, and the program is definitely recommended for the Lotus user.

The *ASCII Toolkit* is similar in set-up and use to the *Macro-Toolkit*. As the name implies, it puts the entire ASCII code in a Lotus worksheet.

A user has at his/her command graphics characters and symbols in order to build and enhance the appearance of Lotus models. As with the *Macro-Toolkit*, standard features included that allow the building of boxes (both single and double-lined) for highlighting sections of your Lotus model.

But again, I found the on-disk manual to be somewhat hard to understand. With study and experimentation the use and capabilities of this program became more apparent. The program is unique and useful and it did find its way into my use of Lotus 1-2-3.

These programs are both recommended for Lotus users who wish to add something extra, different and useful to their models.

(MicroRealities, P.O. Box 66123, Grand Junction, CO 81506, 303-245-8358. *ASCII Toolkit* \$35, *Macro-Toolkit* \$45.)

— Edward Champion

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The IBM PC has a way of defining graphics figures in terms of direction vectors. These vectors include Up, Down, Left, Right, and four intermediate vectors, 'E', 'F', 'G', 'H', as shown in Figure 1. These vectors along with other graphics commands are stored in a string and executed with the DRAW command.

Sadly, Sanyo BASIC lacks the DRAW command, and translation of PC BASIC programs that use it, including most games, is next to impossible. With this in mind, *DRAWS* was born, not only to assist in program translation, but as a tool that Sanyo BASIC programmers can use in the creation of graphics for their own programs.

The REMARK statements, within the *DRAWS* subroutine, describe the function of each part of the program. Line 9999 was added after about the 9,999th time I forgot to put an END statement at the end of the calling program and suffered through the error messages that were generated.

Type in the program listing and save it under the name *DRAWS*. You can then use it to try the examples in the article. To use it with your own programs, simply use the BASIC command MERGE "DRAWS" to merge it in with your own program listing.

Calling The Subroutine

If L5 contains the draw instructions to be executed, PC-BASIC would execute the instruction as

```
50 DRAW L5
```

The same instruction would be executed with *DRAWS* as

```
50 DRAWS=L5:GOSUB 10000
```

The BASIC Motion Commands

The I-shaped figure in Figure 2 can be defined as the string L5="D16;R14;". Note that each draw element of the string is terminated with a ';'. The '.' is optional in most cases with PC-BASIC but is absolutely required with *DRAWS* in BASIC.

If one of the direction vectors is preceded by a 'B' the move will occur without plotting. For example, the cross shape in Figure 3A could be defined as the string CS="D24;BH12;R24;".

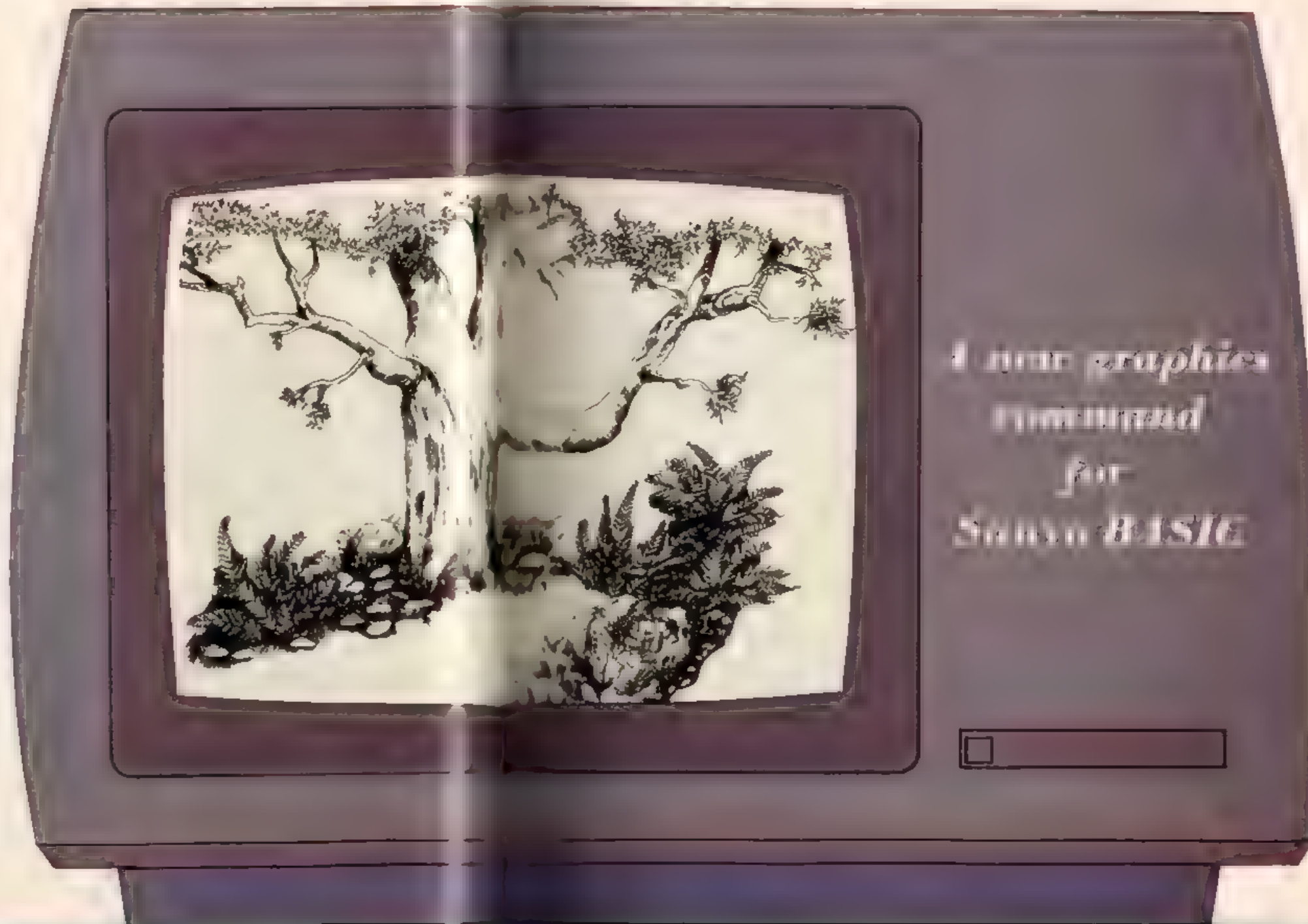
If a direction vector is preceded by an 'N' the move will occur with no position update. For example, the string CS="NU12;NR12;ND12;NL12;" in Figure 3B will plot the four arms of the cross, each time returning to the origin.

The M command is used to move to a screen starting position. It must be preceded by a 'B' to avoid drawing unwanted

DRAWS —

By Ray C. Robinson

A 'DRAW' Emulator for Sanyo BASIC



A new graphics
emulator
for
Sanyo BASIC

Ray Robinson is an electronics technician with the FAA, holds a bachelor's degree in business administration, and has been interested in home and personal computers since 1980. He may be contacted at Rt. 8, Box 725, Lake Charles, LA 70605. (318) 474-5301.

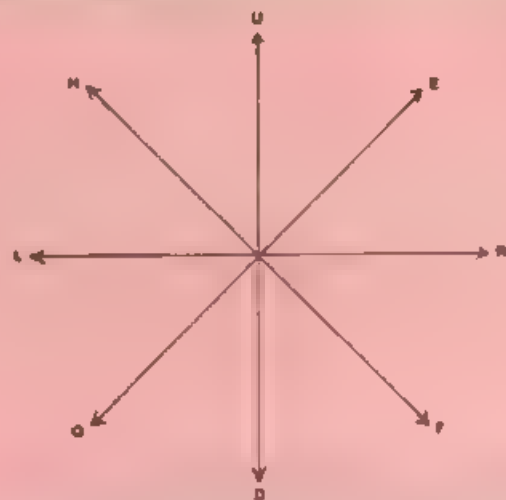


Figure 1: The draw direction vectors

lines. Its format is "BMX,Y;" where X and Y are screen coordinates. For example, the string MS="BM300,100;" will cause the starting location of the first direction vector to occur at Location 300,100 on the screen.

The following program statements will cause the cross shown in Figure 3B to be drawn at screen starting Location 300,100.

```
10 CS="NL12;NR12;ND12;NL12;"
20 MS="BM300,100;"
30 DRAWS=MS+CS:GOSUB 10000
```

Relative Moves

If you precede the X location in the M command with a plus or minus sign, the move will occur relative to the present screen position. For example, "BM+20,10;" will cause a move 20 units to the right and 10 units down from the present screen location. A command of "BM-20,-5;" would cause a move 20 units left and five units up from the present screen location. If you add the following statement to the program above:

```
40 DRAWS="BM-50,0;"+"CS;"
GOSUB 10000
```

A second cross would be drawn 50 units to the left of the ending position of the first cross.

Scaling Shapes

If the statement "Sn;" is included in the string, all future direction vectors will be scaled according to the scale factors in Table 1. The default for n is four or full scale.

Table 1

n	Scale Factor = n / 4
1	1/4 scale
2	1/2 scale
4	full scale
8	2 = double scale
12	3 = triple scale
16	4 = quadruple scale

their origin in increments of 45 degrees according to Table 2. When the "An" command is executed, DRAWS will automatically rescale the lines of the figure so that its shape and size remain approximately the same. The default for n is 2.

Table 2

n	Angle of rotation
1	0 degrees
2	45 degrees counter-clockwise
3	90 degrees counter-clockwise
4	180 degrees counter-clockwise
5	225 degrees counter-clockwise
6	270 degrees counter-clockwise
7	315 degrees counter-clockwise

The following program lines will cause the 'L' in Figure 2 to be drawn four times full scale and rotated 45 degrees counter-clockwise.

```
10 LS="D16;R14;"
20 DRAWS="BM300,100;S20;R1;"
+LS:GOSUB 10000
```

In PC BASIC the rotation command is "An" where n is a digit from zero to three for rotations of zero, 90, 180 or 270 degrees. It also has the T variation which causes the whole screen to rotate but this option was not incorporated in DRAWS.

Rotating Figures

The "An;" command in DRAWS, where n is a digit from zero to seven, will cause the figures to be rotated around

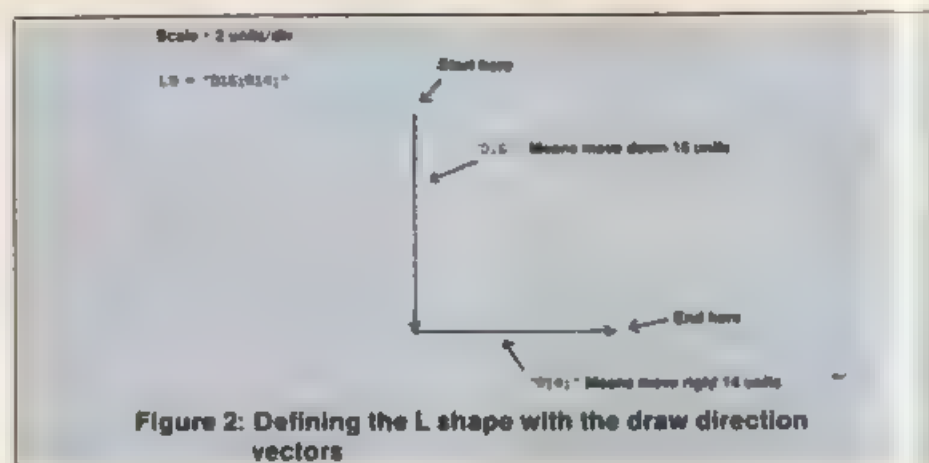


Figure 2: Defining the L shape with the draw direction vectors

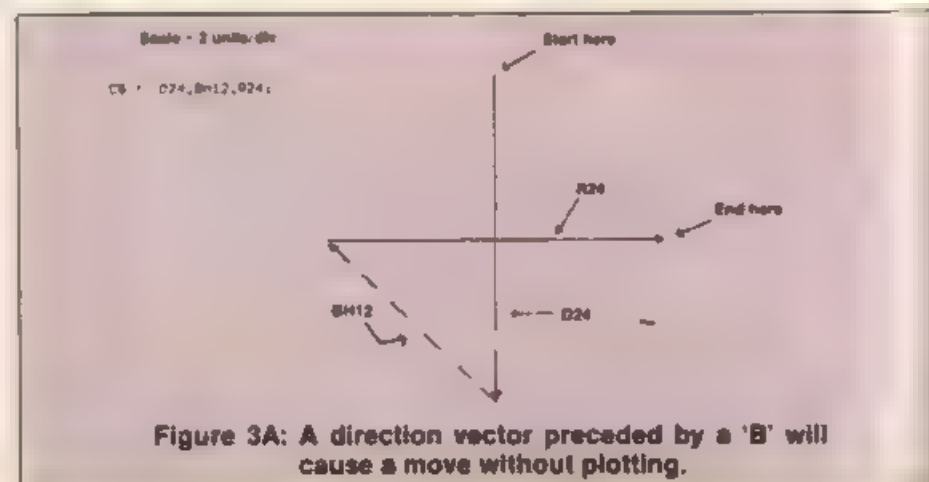


Figure 3A: A direction vector preceded by a 'B' will cause a move without plotting.

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The Color Commands

The string elements "Cn;" and "Pn1,n2;" are color commands where n, n1 and n2 are color numbers from zero to seven.

The COLOR command "Cn;" will cause all future lines to be drawn the selected color n. If the command is not used in your program, the lines will be drawn default color 2 (green).

The PAINT command "Pn1,n2;" will paint the inside of a shape with a specific color n1, within a color boundary n2.

The following program lines will draw the T shape in Figure 4, five times full scale. The cross of the T will be drawn with line and area color 3 (light blue), the base of the T will be drawn with line and area color 5 (purple).

```
10 TS="C3;L20;D4;R40;U4;L20;
   BD2;P3.3;BG2;C5;D30;R4;U30;
   L4;BF2;P5.5;"
20 MS=BM300,100;S20;"
30 DRAWS=MS+TS;GOSUB 10000
```

Note that the direction vector immediately before the PAINT command is preceded by a 'B'. If the 'B' was omitted

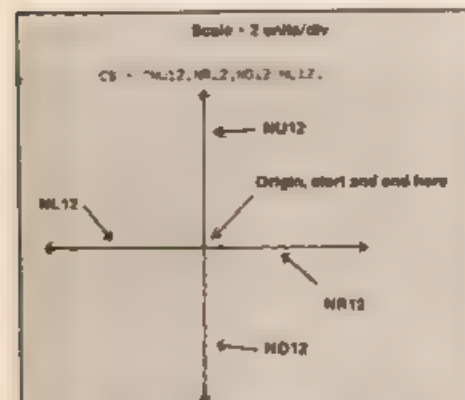


Figure 3B: A direction vector preceded by an 'N' will cause a move with no position update.

and the color of the line was the same as the boundary color, the PAINT command would not execute.

The Circle Command

The string element "On;" is a circle command where n is the radius of the circle. This command is not available with PC BASIC. The following program lines will draw the little car in Figure 5, five times full scale, color the body light blue, then draw the wheels and color them white.

```
10 CS="C3;R12;E4;R14;D4;R12;
   DB;L42;U6;BF4;P3.3;C7;BF4;
   O3;P7.7;BR25;O3;P7.7;"
20 MS=BM150,100;S20;"
30 DRAWS=MS+CS;GOSUB 10000
```

Some Programming Techniques

PC BASIC uses the X command to allow a string to be included within another string. This can easily be emulated with

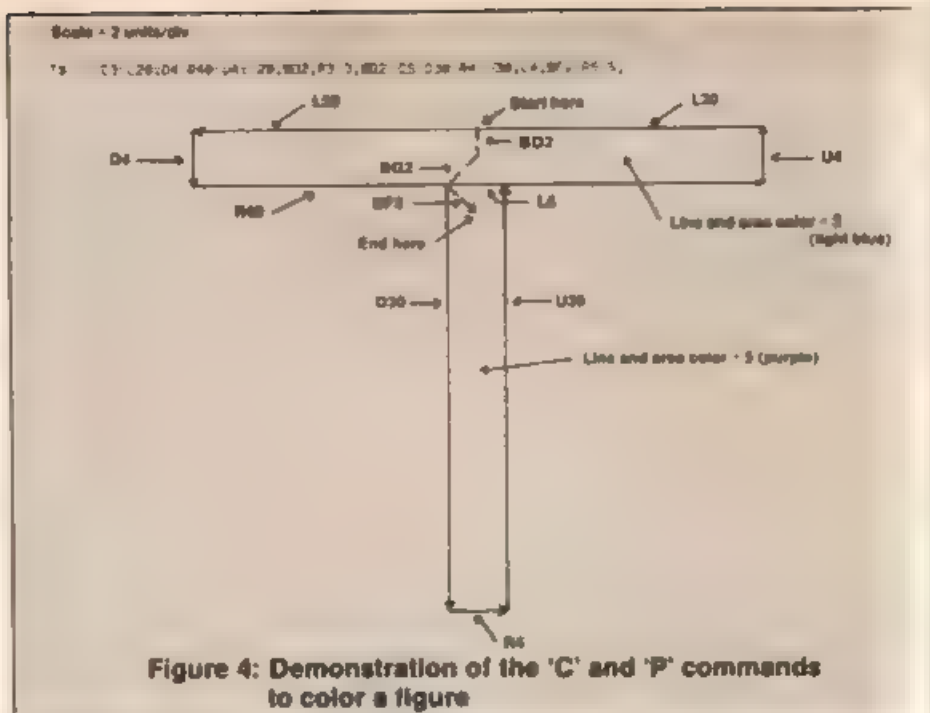


Figure 4: Demonstration of the 'C' and 'P' commands to color a figure

DRAWS by simply concatenating the strings. For example, the PC BASIC program line:

```
60 DRAW "M100,100;XAS;"
can be emulated with DRAWS as:
60 DRAWS="M100,100;"+"AS;"
GOSUB 10000
```

PC BASIC also allows the use of =n, where n is a numeric variable to be used within a string variable in the DRAW statement. This can be emulated to a great extent by setting the variables used in DRAWS directly from your program. For example, X51 and Y51 are the variables in DRAWS that represent the current screen position, the PC BASIC program lines

```
50 X=50,Y=75
60 DRAW "BM=X;=Y;XAS;"
could be emulated with DRAWS as
50 X51=50,Y51=75
60 DRAWS=AS;GOSUB 10000
```

Following is a list of the variables in DRAWS that can be changed in your program

Variable	Function
X51	X-Position
Y51	Y-Position
SX5	Scale
CS	Line color
ARS	Rotation factor

If the length of a direction vector is 1 then the I may be omitted with PC BASIC but is required with DRAWS. For example, a box of unit length could be defined with PC BASIC as the string BS="URC". The equivalent string with DRAWS would be BS="U1;R1;O1;L1;"

In Conclusion

I hope you have as much fun using DRAWS as I did writing and experimenting with it. Find a fairly easy PC BASIC program that uses the DRAW command and translate it for DRAWS. Get out some graph paper and try your hand at designing your own graphics. I think the more you use it the more you will find how easy DRAWSing can be.

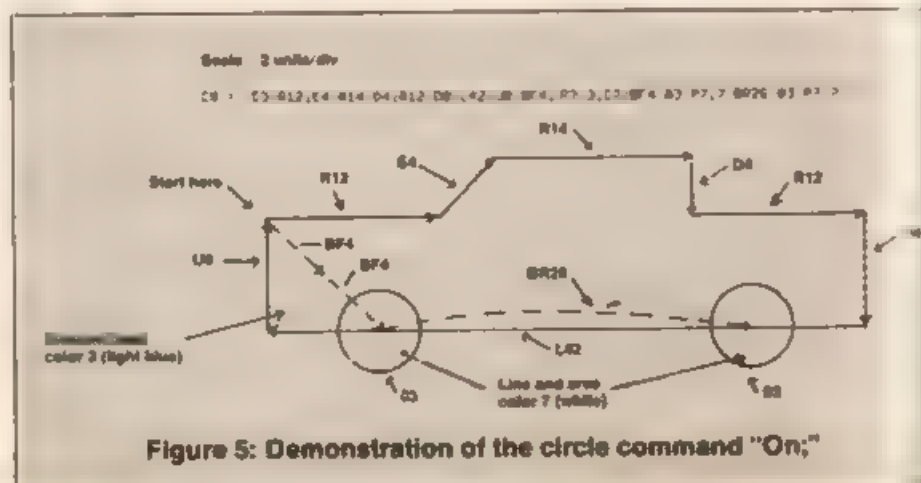


Figure 5: Demonstration of the circle command "On;"

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The listing: DRAW\$.BAS

```

9999 END
10000 REM 'DRAW$' A SUBPROGRAM TO SIMULATE THE IBM PC DRAW COMMAND
10010 REM IN SANYO BASIC
10020 REM BY RAY C. ROBINSON, RT8 BOX 725, LAKE CHARLES, LA 70605
10030 REM
10040 REM ***TEST IF FIRST CALL AND SET VARIABLES ACCORDINGLY***
10050 IF BITS(1)="" THEN DIM BITS(100):SXS=4:CS=2:ARS=0
10070 KS=1
10080 REM ***PUT MOVE & DRAW COMMANDS INTO BITS() ARRAY***
10090 LS=LEN(DRAW$):LS1=INSTR(DRAW$,";"):BITS(KS)=LEFT$(DRAW$,LS1-1)
10100 IF LS1=LS THEN 10130
10110 DRAW$=RIGHT$(DRAW$,LS-LS1):KS=KS+1:GOTO 10090
10120 REM ***START TRANSLATION OF BITS() INTO MOVE & DRAW COMMANDS***
10130 FOR IS=1 TO KS
10140 LS=LEN(BITS(IS))
10150 AS1$=LEFT$(BITS(IS),1):AS2$=MID$(BITS(IS),2,1)
10160 REM ***TEST FOR "A" AND IF TRUE GET ROTATION FACTOR***
10170 IF AS1$="A" THEN ARS=VAL(AS2$):GOTO 10350
10180 REM ***TEST FOR "S" AND IF TRUE SET SCALE***
10190 IF AS1$="S" THEN SXS=VAL(RIGHT$(BITS(IS),LS-1)):GOTO 10350
10200 REM ***TEST FOR "C" AND IF TRUE SET LINE COLOR***
10210 IF AS1$="C" THEN CS=VAL(AS2$):GOTO 10350
10214 REM ***TEST FOR "O" AND IF TRUE DRAW CIRCLE***
10215 IF AS1$="O" THEN RS=VAL(AS2$):CIRCLE(XS1,YS1),RS*SXS/4,,,CS:GOTO 10350
10220 REM ***TEST FOR "M" OR "P" AND IF TRUE MOVE OR PAINT ELSE DRAW***
10230 IF AS1$="M" AND AS2$="M" AND AS1$="P" THEN 10340
10240 CCS=INSTR(BITS(IS),",")
10250 IF AS1$="B" THEN XS$=MID$(BITS(IS),3,CCS-3) ELSE XS$=MID$(BITS(IS),2,CCS-2)
10260 YS$=RIGHT$(BITS(IS),LS-CCS)
10265 IF AS1$="P" THEN PAINT(XS1,YS1),VAL(XS$),VAL(YS$):GOTO 10350
10270 REM ***TEST FOR RELATIVE MOVE & DO IF TRUE ELSE DO NORMAL MOVE***

```

```

10280 XT$=LEFT$(XS$,1).IF XT$="+" AND XT$="-" THEN 10300
10290 XS1=XS1+VAL(XS$):YS1=YS1+VAL(YS$):GOTO 10310
10300 XS1=VAL(XS$):YS1=VAL(YS$)
10310 IF AS1$="B" THEN LINE-(XS1,YS1)
10320 GOTO 10350
10330 REM ***DETERMINE DRAW DIRECTION***
10340 IF AS1$="B" OR AS1$="H" THEN DS$=AS2$:SS=VAL(RIGHT$(BITS(IS),LS-2))*(SXS/4)
GOTO 10360
10350 DS$=AS1$:SS=VAL(RIGHT$(BITS(IS),LS-1))*(SXS/4)
10360 REM ***CONVERT DRAW DIRECTION TO NUMERIC***
10370 IF DS$="U" THEN TS=1 ELSE IF DS$="H" THEN TS=2 ELSE IF DS$="L" THEN TS=3 E
LSE IF DS$="G" THEN TS=4 ELSE IF DS$="D" THEN TS=5 ELSE IF DS$="F" THEN TS=6 ELS
E IF DS$="R" THEN TS=7 ELSE IF DS$="E" THEN TS=8
10380 REM ***CORRECT DRAW DIRECTION WITH ROTATION FACTOR***
10390 IF ARS=0 THEN 10420
10400 TS=TS+ARS:IF TS>8 THEN TS=TS-8
10410 IF ARS MOD 2=0 THEN 10420
10420 IF TS MOD 2=0 THEN SS=-.70717*SS ELSE SS=1.41421*SS
10430 REM ***GET DRAW PARAMETERS***
10440 ON TS GOTO 10430,10440,10450,10460,10470,10480,10490,10500
10430 XS2=XS1:YS2=YS1-.46*SS:GOTO 10520
10440 XS2=XS1:YS2=YS1+.46*SS:GOTO 10520
10450 XS2=XS1-SS:YS2=YS1:GOTO 10520
10460 XS2=XS1-SS:YS2=YS1+.46*SS:GOTO 10520
10470 XS2=XS1:YS2=YS1+.46*SS:GOTO 10520
10480 XS2=XS1+SS:YS2=YS1+.46*SS:GOTO 10520
10490 XS2=XS1+SS:YS2=YS1:GOTO 10520
10500 XS2=XS1+SS:YS2=YS1-.46*SS
10510 REM ***DETERMINE CORRECT DRAW INSTRUCTION AND EXECUTE***
10520 IF AS1$="B" THEN XS1=XS2:YS1=YS2:GOTO 10550
10530 IF AS1$="H" THEN LINE(XS1,YS1)-(XS2,YS2),CS:GOTO 10550
10540 LINE(XS1,YS1)-(XS2,YS2),CS:XS1=XS2:YS1=YS2
10550 NEXT IS
10560 RETURN

```

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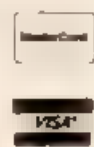
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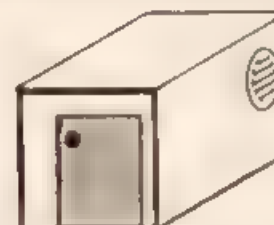
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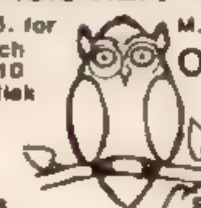
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S

Doctor Up Your Medical Records

By Bill Nieberding



This program helps alleviate some of the complicated paper work involved with keeping track of medical records

If you are trying to keep track of the medical records for your family or any group, you know just how complicated the paper work has gotten in recent years. You have to keep track of hospitals, doctors, prescriptions, tests, for each member. What were the dates of service? When did you send the forms to the insurance company? Did the doctor send the form to the insurance company? Did the insurance company respond to the claim? How much of the deductible has been satisfied? What did you pay out of pocket for tax deduction purposes?

This program, which I have called MED.BAS, allows you to manage all these records in an orderly fashion, and also print out a summary sheet at any time you wish—such as at tax time.

The program, as listed, is set up for four people and up to 30 medical events per person, but can be adapted to any number within the limitations of memory. Put in your own limits and names in lines 40 through 80. I did this with no memory problems on a 256K machine and no drop board. The program is menu driven and thus should not need any further explanation. All of the printer dependencies are for an Epson RX-80.

The one problem that I did run into was getting a listing of the program in a

readable form. It makes liberal use of the GRAPH screen characters which print on the Epson as something else, which is hard to recognize. As a result, I have modified the listing to allow you to know which characters should be typed with the GRAPH key enabled. All characters between "and" should be typed with the GRAPH key enabled. Don't type the "or."

The Menu

Edit a Person: When you select this option, you are asked for the person. Type in the name of the person. You are then presented with a screen for the next available blank item for that person. This is where you would normally add a new item. Follow the screen prompts to go to the previous or next item for editing previously entered items. Step from entry to entry within an item by pressing ENTER.

Successive carriage returns will keep looping you around on the same screen (item). Type over to change. Backspace to delete the previous character. The cursor positioning keys are not operative. Always terminate each entry within a screen (item) by pressing ENTER. At any position within a screen (after you have hit ENTER) you may step to the next or previous item with the "+" or "-". When finished editing this person, type a "\ " to return to main menu.

Read Data: This selection reads the file MED.DBS from your disk. This is the file which contains your data. The "85" part is the data for 1985. This automatically changes to MED.D86 when you change the year in Line 20. The program does this read automatically on being run, thus you would normally not have to use this option.

Write Data: This option writes the data (including your modifications) back to the MED.DBS data set on disk. Always do this before you quit or your editing will be for nothing.

Total the Data: This just does the total calculations necessary for selections 5 and 7. If you are not going to use menu Selection 5 or 7, this one is unnecessary.

Total to Screen: This gives you a screen with all the desired totals for all persons. If you have more than four persons, you have to modify this and the corresponding print string lines.

Screen Person: This selection asks for the person and then shows a screen with prompts for the chart that has all the dates (D) or the chart that has all the dollars (\$) If there are too many items for one screen, use the (R) to get the rest of them. (By the way, all dates are in the MM-DD-YY format but leading zeros need not be entered. The program takes care of shaping them up to fit the standard format.)

Printer Output: This outputs the summary as in Option 5 and the list of all the detailed items by person to the printer. Again, the codes are for the RX-80; you will have to modify these codes for your printer. Note: The only menu selections affected by your number of people (if different from four) will be 5 and 7. You will have to modify to fit your case.

Editor's Note: William Nieberding informs us that a change should be made in the program the first time you run it. Simply add an apostrophe at the beginning of Line 420, then run the program and select Option 3 to save a "null" file. After you create the file in this way, you'll be able to run the program as shown.

Bill Nieberding is the assistant chief of the Documentation Research Office at NASA's Lewis Research Center. He has a master's degree in physics and has been using computers to instrumentation for 20 years. He may be contacted at 7 Nottingham Dr., Fairview Park, H 44126, (216) 779-5144.

The listing: MED.BAS

```

1 ***** MED *****
2 1985="85" 'CHANGE THIS LINE FOR EACH YEAR
3 NEMS=30: 'GUESS AT MAXIMUM NUMBER OF ITEMS OR ENTRIES FOR THE PERSON WITH TH
4 MNT FOR THIS YEAR
5 N=4: 'NUMBER OF PEOPLE FOR WHOM YOU ARE KEEPING RECORDS
6 NAMS(0)="BILL" 'PUT NAMES OF YOUR PEOPLE IN HERE
7 NAMS(1)="MARY"
8 NAMS(2)="TIM"
9 NAMS(3)="TERRI"
10 NAMS(4)="TOTAL": 'FICTITIOUS PERSON FOR TOTALS

```



```

100 DIM ITEMS(PEOPLE-1,ITEMS,9),DATNUM(PEOPLE-1,ITEMS),TOT(PEOPLE,8)
110 GOSUB 2190
120 FOR INAM=0 TO PEOPLE-1
130 FOR J=0 TO ITEMS
140 DATNUM(INAM,J)=1E+96:MAKE DATNUMS LARGE SO THAT UNUSED ONES WILL BUBBLE TO
TOP
150 NEXT J
160 NEXT INAM
170 COLOR 2,0
180 AS="":CLS
190 PRINT "(K)";STRING$(78,"(-)"),"(X)",
200 PRINT "(B)";TAB(80) "(B)"
210 PRINT "(2)";STRING$(78,"(-)"),"(1)"
220 FOR I=4 TO 22:PRINT "(B)";TAB(80) "(B)",NEXT I
230 PRINT "(.)";STRING$(78,"(-)");"(D)";
240 LABELS="MENU FOR "+YEARS+" MEDICAL RECORDS":L=LEN(LABELS):LOCATE 2,49-1/2,0:
PRINT LABELS
250 LABEL$(1)="EDIT A PERSON"
260 LABEL$(2)="READ DATA"
270 LABEL$(3)="WRITE DATA"
280 LABEL$(4)="TOTAL THE DATA"
290 LABEL$(5)="TOTAL TO SCREEN"
300 LABEL$(6)="SCREEN PERSON"
310 LABEL$(7)="PRINTER OUTPUT"
320 LOCATE 0,1
330 PRINT TAB(29);"(K)";STRING$(18,"(-)"),"(X)"
340 FOR I=1 TO 7
350 PRINT TAB(29);"(B)";LABEL$(I);TAB(45);I;"(B)"
360 NEXT I
370 PRINT TAB(29);"(.)";STRING$(18,"(-)"),"(D)"
380 LOCATE 20,1
390 PRINT TAB(29);"(K)";STRING$(18,"(-)"),"(X)"
400 PRINT TAB(29);"(B)";"SELECT ?"," "(B)"
410 PRINT TAB(29);"(.)";STRING$(18,"(-)");"(D)"
420 IF Q=0 THEN GOSUB 1170:Q=10:GOTO 400
430 AS=INKEY$:IF AS="" GOTO 430
440 LOCATE 21,43:PRINT AS
450 Q=VAL(AS):ON Q GOSUB 490,1170,1340,2320,2530,1640,2820
460 IF Q<1 OR Q>8 GOTO 430
470 IF Q=2 OR Q=3 OR Q=4 OR Q=7 THEN GOTO 400
480 GOTO 180
490 'EDIT AN ENTRY *****
500 LOCATE 21,30
510 INPUT:"PERSON ";NAM$
520 GOSUB 2270
530 IF INAM=>4 GOTO 500
540 FOR K=0 TO ITEMS
550 IF ITEMS(INAM,K,0)="" THEN NEXT K
560 FOR J=K TO ITEMS
570 ROW=5
580 CLS
590 COLOR 0,2
600 PRINT NAM$;TAB (10);"ITEM #":J;TAB(30);"CR/ITEM #":NEXT ITEM #":PREV.ITEM #
-DELETE \-QUIT"
610 COLOR 2,0
620 GOSUB 1010
630 LOCATE ROW,45,1
640 AS="" BS=""
650 AS=INKEY$:IF AS="" OR AS=CHR$(10) OR AS=CHR$(20) OR AS=CHR$(31) OR AS=CHR$(2
9) OR AS=CHR$(12) OR AS=CHR$(30) GOTO 630
660 IF AS=CHR$(13) AND ROW<22 AND BS="" THEN ROW=ROW+2:AS="":GOTO 630
670 IF AS=CHR$(13) AND ROW>22 AND BS="" THEN ROW=5:AS="":GOTO 630
680 IF AS=CHR$(13) AND BS="" THEN GOTO 770
690 IF AS="@" THEN GOTO 800
700 IF AS="+" THEN GOTO 830
710 IF AS="*" THEN J=J-2:GOTO 830
720 IF AS="\ " THEN GOSUB 1500:GOTO 850
730 IF ASC(AS)=8 AND BS="" GOTO 650
740 IF ASC(AS)=8 THEN BS=LEFT$(BS,LEN(BS)-1):PRINT AS:PRINT " ":PRINT AS, AS="
":GOTO 650
750 BS=BS+AS:PRINT AS:AS="":GOTO 650
760 GOTO 650
770 ITEMS(INAM,J,(ROW-5)/2)=BS:BS=""
780 IF ROW=5 THEN DS=ITEMS(INAM,J,0):GOSUB 3530:DATNUM(INAM,J)=DS

```

```

100 GOTO 660
110 FOR K=0 TO 9:ITEMS(INAM,J,K)="" :NEXT K
120 DATNUM(INAM,J)=2E+96
130 GOTO 570
140 IF J<0 THEN J=-1
150 NEXT J
160 FOR J=0 TO ITEMS 'FIX DATE STRING LENGTHS
170 FOR K=0 TO 9
180 IF ITEMS(INAM,J,0)="" GOTO 1000
190 IF K>0 AND K<7 GOTO 980
200 IF ITEMS(INAM,J,K)="" THEN 980
210 P1=INSTR(1,ITEMS(INAM,J,K)," ") P2=INSTR(P1+1,ITEMS(INAM,J,K) " ")
220 IF RIGHTS(ITEMS(INAM,J,K),1)="" THEN DDD$="" ELSE DDD$=" "
230 MONTHS=MIDS(ITEMS(INAM,J,K),1,P1-1)
240 DAYS=MIDS(ITEMS(INAM,J,K),P1+1,P2-P1-1)
250 YEARS=MIDS(ITEMS(INAM,J,K),P2+1,2)
260 IF LEN(DAYS)=1 THEN DAYS=" "+DAYS
270 IF LEN(MONTHS)=1 THEN MONTHS=" "+MONTHS
280 ITEMS(INAM,J,K)=MONTHS+" "+DAYS+" "+YEARS+DDD$
290 NEXT K
300 NEXT J
310 RETURN
320 'WRITE THE INPUT SCREEN *****
330 GOSUB 2270
340 LOCATE 7,1
350 PRINT TAB(76);"(Y)"
360 LOCATE 5,1
360 PRINT TAB(5);"SERVICE DATE (M-D-YY)";STRING$(44-POS,"-");" ",COLOR 0,2:PRI
NT ITEMS(INAM,J,0):COLOR 2,0:PRINT
370 PRINT TAB(5);"SERVICE/RX";STRING$(44-POS,"-");" ":COLOR 0,2:PRINT ITEMS(IN
AM,J,1):COLOR 2,0:PRINT
380 PRINT TAB(5);"CHARGE";STRING$(44-POS,"-");" ":COLOR 0,2:PRINT ITEMS(INAM,J
,2):COLOR 2,0:PRINT
390 PRINT TAB(5);"WE PAID PROVIDER";STRING$(44-POS,"-");" ",COLOR 0,2:PRINT IT
EMS(INAM,J,3):COLOR 2,0:PRINT
400 PRINT TAB(5);"INSURANCE PAID PROVIDER";STRING$(44-POS,"-");" ",COLOR 0,2:P
RINT ITEMS(INAM,J,4):COLOR 2,0:PRINT
410 PRINT TAB(5);"INSURANCE PAID US";STRING$(44-POS,"-");" ":COLOR 0,2:PRINT I
TEMS(INAM,J,5):COLOR 2,0:PRINT
420 PRINT TAB(5);"TO DEDUCTIBLE";STRING$(44-POS,"-");" ":COLOR 0,2:PRINT ITEMS
(INAM,J,6):COLOR 2,0:PRINT
430 PRINT TAB(5);"DATE WE PAID (M-D-YY)";STRING$(44-POS,"-");" ",COLOR 0,2:PRI
NT ITEMS(INAM,J,7):COLOR 2,0:PRINT
440 PRINT TAB(5);"DATE FORM SENT (M-D-YY)";STRING$(44-POS,"-");" ",COLOR 0,2:P
RINT ITEMS(INAM,J,8):COLOR 2,0:PRINT
450 PRINT TAB(5);"DATE FORM RECEIVED (M-D-YY)";STRING$(44-POS,"-");" ",COLOR 0
:PRINT ITEMS(INAM,J,9):COLOR 2,0:PRINT
460 RETURN
470 'READ MED D+YEARS FROM DISK *****
480 DSNAME$="MED D"+YEARS$
490 IF Q=0 THEN GOTO 1210
500 LOCATE 21,30:PRINT STRING$(18," "). LOCATE 21,31:COLOR 6,2:PRINT " SURE (Y/
" INPUT Q5:COLOR 2,0:IF Q5<>"Y" GOTO 1330
510 LOCATE 21,30:PRINT STRING$(17," "). LOCATE 21,34:COLOR 6,2:PRINT " READING
COLOR 2,0
520 OPEN "I".1.DSNAME$
530 FOR INAM=0 TO PEOPLE-1
540 FOR J=0 TO ITEMS
550 FOR K=0 TO 9
560 INPUT #1,ITEMS(INAM,J,K)
570 NEXT K
580 INPUT #1,DATNUM(INAM,J)
590 IF ITEMS(INAM,J,0)="" GOTO 1310
600 NEXT J
610 NEXT INAM
620 CLOSE
630 RETURN
640 'WRITE MED D+YEARS TO DISK *****
650 DSNAME$="MED D"+YEARS$
660 LOCATE 21,30:PRINT STRING$(18," "). LOCATE 21,31:COLOR 6,2:PRINT " SURE (Y/
" INPUT Q5:COLOR 2,0:IF Q5<>"Y" GOTO 1490
670 LOCATE 21,30:PRINT STRING$(17," "). LOCATE 21,34:COLOR 6,2:PRINT " WRITING
COLOR 2,0
680 OPEN "O".1.DSNAME$

```



```

1399 FOR INAM=9 TO PEOPLE-1
1499 FOR J=9 TO ITEMS
1419 FOR K=9 TO 9
1429 WRITE #1,ITEM$(INAM,J,K)
1439 NEXT K
1449 WRITE #1,DATNUM(INAM,J)
1459 IF ITEM$(INAM,J,9)="" GOTO 1479
1469 NEXT J
1479 NEXT INAM
1489 CLOSE
1499 RETURN
1599 'NOW ORDER THE LIST IN L BY DATNUM(INAM,L)*****
1519 BUBBLE=9
1529 FOR L=9 TO ITEMS-1
1539 IF DATNUM(INAM,L+1)>1E+96 THEN 1559
1549 IF ITEM$(INAM,L+1,9)="" GOTO 1629
1559 IF DATNUM(INAM,L)<=DATNUM(INAM,L+1) GOTO 1619
1569 BUBBLE=L
1579 FOR H=9 TO 9
1589 SWAP ITEM$(INAM,L,H),ITEM$(INAM,L+1,H)
1599 NEXT H
1609 SWAP DATNUM(INAM,L),DATNUM(INAM,L+1)
1619 NEXT L
1629 IF BUBBLE=9 THEN 1519
1639 RETURN
1649 'PRINT TO SCREEN *****
1659 LOCATE 21,39
1669 INPUT;"PERSON ";NAM$
1679 GOSUB 2279
1689 IF INAM=9 GOTO 1659
1699 CLS
1709 GOSUB 1729
1719 RETURN
1729 'PRINT THE SCREEN *****
1739 CLS
1749 LOCATE 24,1
1759 COLOR 9,3
1769 PRINT NAM$,TAB(25);"\-QUIT $-DOLLAR CHART D-DATE CHART R-REST"
1779 COLOR 2,9
1789 ADD=9
1799 AS=INKEY$.IF AS="" GOTO 1799
1809 IF AS="\ " GOTO 1869
1819 IF AS="$" THEN BS="\ ":ADD=9 GOSUB 1879 AS=""
1829 IF AS="D" THEN BS="D":ADD=9 GOSUB 2939 AS=""
1839 IF AS="R" AND BS="\ " THEN ADD=29 AS="" BS="" GOSUB 1879
1849 IF AS="R" AND BS="D" THEN ADD=29 AS="" BS="" GOSUB 2939
1859 GOTO 1799
1869 RETURN
1879 'WRITE THE DOLLAR CHART *****
1889 CLS
1899 LOCATE 24,1
1909 COLOR 9,3
1919 PRINT NAM$,TAB(25);"\-QUIT $-DOLLAR CHART D-DATE CHART R-REST"
1929 COLOR 2,9
1939 LOCATE 1,1
1949 COLOR 9,2
1959 PRINT FORM1$;
1969 COLOR 2,9
1979 IF ADD=9 THEN LIMIT=29 ELSE LIMIT=ITEMS
1989 FOR J=ADD TO LIMIT
1999 IF ITEM$(INAM,J,9)="" GOTO 2029
2009 PRINT USING FORM2$;ITEM$(INAM,J,9);ITEM$(INAM,J,1);VAL(ITEM$(INAM,J,2));VAL
(ITEM$(INAM,J,3));VAL(ITEM$(INAM,J,4));VAL(ITEM$(INAM,J,5));VAL(ITEM$(INAM,J,6))
2019 NEXT J
2029 RETURN
2039 'WRITE THE DATE CHART *****
2049 CLS
2059 LOCATE 24,1
2069 COLOR 9,3
2079 PRINT NAM$,TAB(25);"\-QUIT $-DOLLAR CHART D-DATE CHART R-REST"
2089 COLOR 2,9
2099 LOCATE 1,1
2109 COLOR 9,2
2119 PRINT FORM3$

```

```

29 COLOR 2,9
29 IF ADD=9 THEN LIMIT=29 ELSE LIMIT=ITEMS
29 FOR J=ADD TO LIMIT
29 IF ITEM$(INAM,J,9)="" GOTO 2189
29 PRINT USING FORM4$;ITEM$(INAM,J,9);ITEM$(INAM,J,1);VAL(ITEM$(INAM,J,2));ITE
M$(INAM,J,3);ITEM$(INAM,J,4);ITEM$(INAM,J,5)
29 NEXT J
29 RETURN
29 'DEFINE FORMATS *****
29 FORM1$="SRVC DATE (Y)SERVICE (Y)CHARGE (Y)WE PAID (Y)INS PD TR
Y:INS PD US(Y)DEDUCTIBLE"
29 FORM2$="5 5(Y)5 5(Y)$###,##(Y)$###,##(Y)$###,##
Y:$###,##(Y)$###,##"
29 FORM3$="SRV DATE(Y)SERVICE (Y)CHARGE (Y)DT WE PD(Y)
LE 9M SMT(Y)DT 9M RD"
29 FORM4$="5 5(Y)5 5(Y)$###,##(Y)5 5(Y)
5 5(Y)5 5"
29 FORM5$=" (Y)5 5(Y)5 5(Y)5 5(Y)
5 5(Y)5 5"
29 FORM6$="5 5 5(Y)$###,##(Y)$###,##(Y)$###,##(Y)
$###,##(Y)$###,##"
29 RETURN
29 'SET NAME INDEX *****
29 FOR INAM=9 TO PEOPLE-1
29 IF NAM$=NAM$(INAM) GOTO 2319
29 NEXT INAM
29 RETURN
29 'TOTAL ALL *****
29 LOCATE 21,39 PRINT STRING$(17," "). LOCATE 21,39 COLOR 6,2 PRINT " TOTALING
" COLOR 2,9
29 FOR I=1 TO PEOPLE
29 FOR T=1 TO 8
29 TOT(I,T)=9
29 NEXT T NEXT I
29 FOR INAM=9 TO PEOPLE-1
29 FOR J=9 TO ITEMS

```

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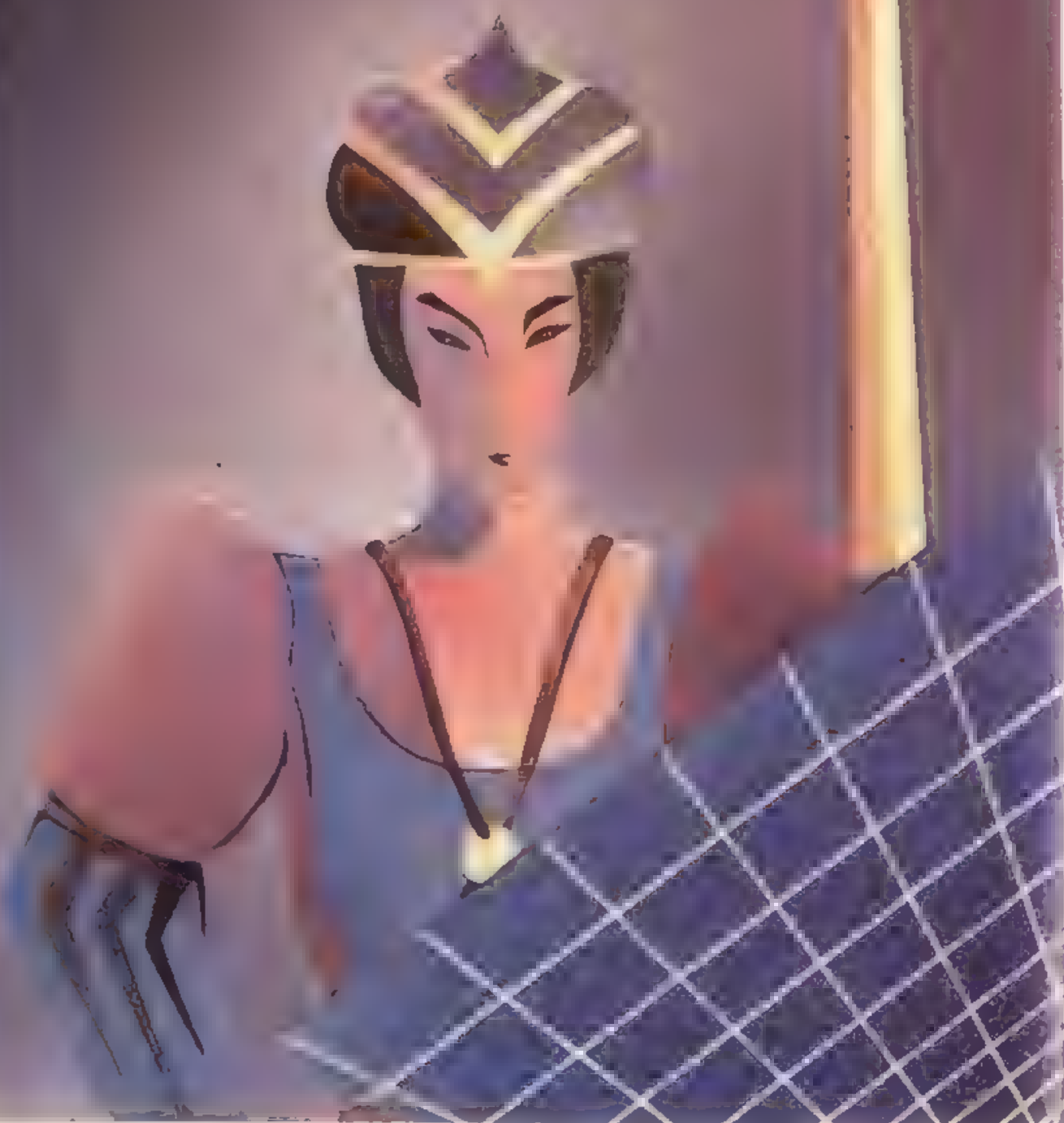
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April 1986 **SOFT SECTOR** **43**

Galactic Empire

By Jon McGuire



I first wrote *Galactic Empire* for my TRS-80 Color Computer, based on a similar game I had for the TRS-80 Model III. Although I was satisfied with the Color Computer version's ability to mimic the original, memory limitations kept me from making desired improvements. Luckily, I found this was not the case with the Sanyo MBC-550. Here you have the finished, highly modified Sanyo version.

I suggest you read the article, then type in the listing and save it. With the program in and running, go over the article once more. It is easier to understand something if you can see it work or "play with it" and get the hang of using it.

The opening screen does a nice job of demonstrating the Sanyo's excellent graphics capabilities. It even looks very nice on my amber monitor. Press any key to start the game.

When asked if you would like background information, press 'Y' or 'N'. If you choose 'Y', it will display a screen of text explaining why you are fighting and what you are fighting for. Basically, you are in charge of a huge armada. With this once you must take control of the 19 other planets in the galaxy. After you are finished reading the text screen, press any key.

If you chose not to read the text or just left the text screen, there is a brief pause while the program sets up variables, etc.), then the game screen forms.

This screen will be the one you see through the whole game (with one difference explained later). With the exception of the small box which contains the "Galactic Empire" logo, the screen is divided into three boxes. I will refer to these as the top, middle and bottom screens. You will understand this the first time you run the program.

The upper part of the top screen reads "Command." This line will always display the current mode (Command, Computer, Orders, Embark, Attack, etc.). Inside the box is a listing of all of your resources. These will always initialize as you see them displayed, but will change during the game. Money used in this game is Galactic Credits (Cr).

On the middle screen you see the command menu. When you enter another mode, this menu will disappear and the new menu will appear on the bottom screen. As you can see, your choices are O for orders, 'C' for computer, 'A' to attack, 'E' to embark, 'S' to save and 'L' to load a game. This screen also displays scout craft information.

Jon McGuire is a junior at Orange Park High School. He has been writing computer programs for a wide range of computers since 1978, when his father first bought a TRS-80 Model I. He may be contacted at 2234 George Wythe Rd., Orange Park, FL 32073, (904) 272-5596.



The bottom screen is initially blank. It is used to display all non-command (mode) menus and other data. On the bottom line of this screen you may occasionally see "Happy New Year!!!" This simply means that another year has passed. This will happen once every 15 minutes or so.

I will list all of the possible commands and describe their effects, but first there are a few things you should know. You may abort any command or menu by pressing the 'X' key. A prompt asking for the name of a planet will require you to press any key from 'A' to 'T'. These keys correspond to the names of the planets which begin with those letters.

The "orders" menu can be reached from the command mode by pressing 'O'. To leave the orders menu, press 'X'. Your choices on the orders menu are 'C', 'N', 'T'

and 'S' (Cryonics, Navigation, Taxation, Recruiting and Ships).

Cryonics comes from "cryogenics" which has to do with placing living material in extreme cold and having it emerge later in perfect shape with very little aging. With this, you can select the number of years you wish to spend in suspended animation. With each year that passes, the year counter on the top screen advances and the large "Galactic Empire" changes color. This is how you'll wait for the return of your scout ships.

To use the embark command, you must first use navigation to give the armada navigators their orders. You will be shown the current destination and be asked for a new one. You may either press the corresponding key for the planet's name, or 'X' to use the current destination and return to the orders menu.

When you press 'T' from the orders menu, a secondary menu appears. This menu allows you to tax the planet or recruit men from the surface. You can only recruit and tax once per visit or after you see a "Happy New Year!!!" display. After that one time, you must leave and return later, or wait for another year to pass. Passing time with cryonics will not allow you to use this function again. The time must have passed as a result of the routine that produces the "Happy New Year!!!" display.

If you choose to tax the people, you will see how many credits were collected and the numbers on the top screen will increase accordingly. You will then be returned to the tax/recruit menu.

If you should wish to recruit men (to fill empty transports), press 'R' from the tax/recruit menu. You will be asked to type in how many transports to fill. Of the six possible population sizes, each can fill only a certain number of transports. If you go over this, you will be notified and asked to reenter the number. I will give you this hint: The maximum number of transports Galactica-sized populations can fill is 79.

The next orders menu selection is 'S' for ships. This will take you to a sub-menu where you can either press 'B' to build ships, or 'S' to send scout ships.

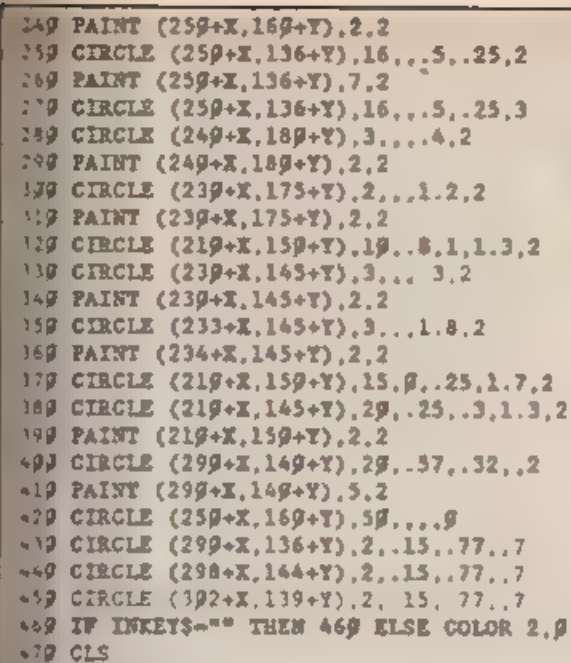
When you choose to build ships, the bottom screen will clear. It will then display the cost of the various types of ships (transports, fighters and scouts). You may build a certain number of ships per year (see tax/recruit menu for details on what "per year" means). This number is dependent on planet population and technological level. You will be prompted for each type of ship. If you try to build more ships than the planet can handle, the computer will not accept the number. Note: If you have an upper limit of, for example, 11, and you only build nine ships, you can go back later in the same year and build the other two.

If you wish to find information on any of the other planets in the galaxy, use the

With 'D' (Distance) you can tell how far

With the attack command you can lay siege upon a planet. When you choose this, the screen will clear and come back in red. Then the computer will check to make sure you have fighter ships, troops, and will check the planet conditions. If you have no fighters or troops, or attempt to assault an empire, the attack will automatically be called off.

That, very basically, is *Galactic Empire*. You may notice that the hints and information in this article are not highly detailed. Part of the fun of this game is trying to figure out the best order in which to do things and in finding the little eccentricities of the game. It is not hard to play, but it will take a lot of practice to reach the point where you will win many campaigns as you lose. After several weeks of trying, I finally won a game and I wrote it!



The listing: `EMPIRE.BAS`

```

10 *****
20 ***** Galactic Empire 5.8 *****
30 ***** By Jon McGuire *****
40 ***** Copyright 1985 *****
50 *****
60 '
70 '
80 FOR T=1 TO VAL(RIGHT$(TIMES,2)):ZZ=0:ND=0:NDX=0:NDY=0:NDZ=0:NDW=0:NDX=0:NDY=0:NDZ=0:NDW=0
90 COLOR 4,0:CLS:LOCATE 1,30,0:PRINT "By Jon McGuire";:WINDOW (0,0)-(639,199)
100 SYMBOL (20,30),"Galactic Empire",5,3,4
110 FOR T=1 TO 25:X=INT(RND*620)+10:Y=INT(RND*120)+60:CIRCLE(X,Y),INT(RND*2)+1,
120 X=175-X:CLR1=7:CLR2=1:Y=Y-20
130 CIRCLE (250+X,160+Y),50,...2:PAINT (250+X,160+Y),1,2
140 CIRCLE(250+X,160+Y),10,...5,...75,...2
150 CIRCLE(250+X,160+Y),20,...25,...5,...5,2
160 LINE (240+X,160+Y)-(260+X,160+Y),2
170 CIRCLE(260+X,170+Y),15,...25,...5,1,5,2
180 CIRCLE (270+X,170+Y),35,...65,...85,...85,2
190 CIRCLE (250+X,155+Y),5,...5,...75,...2
200 LINE (240+X,155+Y)-(260+X,155+Y),2
210 CIRCLE (300+X,160+Y),9,...25,...75,...2
220 CIRCLE (270+X,164+Y),5, 8, 6,...6,2
230 CIRCLE (268+X,160+Y),6,...35,...1,...3,2

```



```

820 GOSUB 3730
830 LOCATE 16,20:PRINT "Cryonics";:Z=Z+1:GOTO 820
840 LOCATE 19,15,1:PRINT "How many years (RETURN to abort)":INPUT (3);:Z
850 LOCATE 19,80:PRINT CHR$(179);:GOSUB 3970
860 IF Z=0 THEN 770
870 C=2
880 C=C+1:ZZ=ZZ+1:IF C=8 THEN C=1
890 SYMBOL (74,99):"G A L A C T I C E M P I R E",2,1,C
900 YR=YR+1:LOCATE 2,8:PRINT YR.
910 FOR T=1 TO 100:NEXT T:GOSUB 3600
920 IF ZZ<2 THEN 880
930 SYMBOL (74,99):"G A L A C T I C E M P I R E",2,1,CLR2
940 GOSUB 3600:GOTO 770
950 GOSUB 3730:LOCATE 16,20:PRINT "Navigation";
960 LOCATE 18,3:PRINT "Current destination . . .";NAM$(NAV).
970 LOCATE 20,3:PRINT "Enter new destination . . .";
980 GOSUB 3500:LOCATE 20,27:IS=INKEYS:IF IS="" THEN 980 ELSE V=(ASC(IS) AND 95)-
64
990 IF IS="X" THEN 770
1000 IF V<1 OR V>20 THEN 980
1010 PRINT NAM$(V);:NAV=V:GOTO 770
1020 GOSUB 3730
1030 LOCATE 16,5:PRINT "-T- Taxation";TAB(60);"-R- Recruit";
1040 LOCATE 19,30,0:PRINT "Command? . . .";
1050 GOSUB 3500:LOCATE 19,38:IS=INKEYS:IF IS="" THEN 1050 ELSE IS=CHR$(ASC(IS) A
ND 95):IF IS="K" THEN 770 ELSE IF IS="T" OR IS="R" THEN 1060 ELSE 1050
1060 IF IS="T" THEN 1100
1070 IF RECR=1 THEN 1050
1080 GOSUB 3730
1090 LOCATE 16,20:PRINT "Recruit Troops";:R=R+1
1100 IF EI(CP)=1 THEN 1120
1110 LOCATE 18,15:PRINT "You cannot recruit from independent planets, sir ". FOR
T=1 TO 1000:NEXT T:GOTO 1020

```

```

1120 LOCATE 18,20:PRINT "Population: ";POPLTNS(CP);
1130 LOCATE 20,15:INPUT (3):"Fill how many transports";ZZ
1140 LOCATE 20,80:PRINT CHR$(179);:GOSUB 3970
1150 IF ZZ>ETR THEN LOCATE 23,2:PRINT "We don't have that many transports that a
re empty, sir!";:FOR T=1 TO 1000:NEXT T:GOTO 1020
1160 IF ZZ=0 THEN 1020
1170 IF INT(ZZ/16)>POP(CP) THEN LOCATE 20,15:PRINT "They'd never recover from th
e loss of men, sir!";:FOR T=1 TO 1000:NEXT T:GOTO 1020
1180 LTR=LTR+ZZ:ETR=ETR-ZZ:LOCATE 6,29:PRINT LTR. LOCATE 6,59:PRINT ETR." ". RE
CR=1:GOTO 1020
1190 IF TAXED=1 THEN 1050
1200 GOSUB 3730
1210 LOCATE 16,20:PRINT "Tax Population";:ANT=0
1220 IF EI(CP)=1 THEN 1240
1230 LOCATE 18,19:PRINT "You cannot tax Independent worlds, sir!";:FOR T=1 TO 10
00:NEXT T:GOTO 1020
1240 ANT=INT((POP(CP)*(100+TLVL(CP)))/3)
1250 N=INT(RND*99)+1:IF N<30 THEN ANT=ANT-(RND*20) ELSE IF N>70 THEN ANT=ANT+(RN
D*20)
1260 ANT=INT(ANT) CR=CR+ANT:LOCATE 2,30,0:PRINT "Credits ",CR.
1270 LOCATE 18,25:PRINT ANT."Cr collected, sir ".
1280 FOR T=1 TO 1000:NEXT T:TAXED=1:GOTO 1020
1290 GOSUB 3730
1300 LOCATE 16,5:PRINT "-B- Build Ships";TAB(60);"-S- Send Scouts";:LOCATE 18,30
0:PRINT "Command? . . .";
1310 GOSUB 3500:LOCATE 18,38:IS=INKEYS:IF IS="" THEN 1310 ELSE IS=CHR$(ASC(IS) A
ND 95)
1320 IF IS="X" THEN 770 ELSE IF IS="B" THEN 2850 ELSE IF IS="S" THEN 1330 ELSE 1
310
1330 GOSUB 3730:LOCATE 16,20:PRINT "Send Scouts";
1340 FOR T=1 TO 500
1350 IF SENT(T)=1 THEN 1520
1360 LOCATE 18,20,0:PRINT "Scout number: ";T;

```



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1370 LOCATE 19,29:PRINT "Send to: ";
1380 GOSUB 3500:LOCATE 19,29:IS=INKEY$:IF IS="" THEN 1380 ELSE IS=CHR$(ASC(IS) A
ND 95):IF IS="X" THEN 1290
1390 V=ASC(IS)-64:IF V<1 OR V>20 THEN 1380
1400 PRINT NAM$(V):DEST(T)=V
1410 LOCATE 20,29:PRINT "Return to: ";
1420 GOSUB 3500:LOCATE 20,31:IS=INKEY$:IF IS="" THEN 1420 ELSE IS=CHR$(ASC(IS) A
ND 95):IF IS="X" THEN 1290
1430 V=ASC(IS)-64:IF V<1 OR V>20 THEN 1420
1440 PRINT NAM$(V):RTRN(T)=V
1450 LOCATE 22,29:PRINT "Correct (Y/N/X)? ";
1460 GOSUB 3500:LOCATE 22,37:IS=INKEY$:IF IS="" THEN 1460 ELSE IF IS="X" THEN 12
1470 IF IS="N" OR IS="n" THEN 1330
1480 PRINT "Yes":SENT(T)=1
1490 RTYR(T)=ABS(PX(CP)-PX(DEST(T)))+ABS(PY(CP)-PY(DEST(T)))+YR
1500 LOCATE 21,29,9:PRINT "Return year:":RTYR(T);
1510 FOR T=1 TO 1000 NEXT T:GOSUB 3500:GOSUB 3970:GOTO 1290
1520 NEXT T:LOCATE 19,29
1530 PRINT "We have no scouts available, sir.";
1540 FOR T=1 TO 1000 NEXT T:GOSUB 3730:GOTO 1300
1550 LOCATE 1,2:PRINT STRING$(78,196):LOCATE 1,30,9:PRINT "COMPUTER";
1560 GOSUB 3730
1570 LOCATE 16,19:PRINT "-M- Map":TAB(45);"-S- Status Report":LOCATE 18,19:PRIN
T "-D- Distance Calculator":TAB(45);"-P- Planetary Data";
1580 LOCATE 21,39,9:PRINT "Command? ";
1590 IS=INKEY$:GOSUB 3500:LOCATE 21,38:IF IS="" THEN 1590 ELSE IS=CHR$(ASC(IS) A
ND 95):IF IS="X" THEN 680
1600 IF IS="M" THEN 1610 ELSE IF IS="S" THEN 1700 ELSE IF IS="D" THEN 1900 ELSE
IF IS="P" THEN 2060 ELSE 1590
1610 COLOR 2,9:CLS FOR T=1 TO 20
1620 IF EI(T)=1 THEN 1640
1630 LOCATE PY(T),PX(T),9:COLOR 9,2:PRINT MID$(NAM$(T),1,1):GOTO 1650
1640 LOCATE PY(T),PX(T),9:COLOR 2,9:PRINT MID$(NAM$(T),1,1);
1650 NEXT T:COLOR 2,9
1660 GOSUB 3500:LOCATE 1,1,9:IS=INKEY$:IF IS="" THEN 1660 ELSE IS=CHR$(ASC(IS) A
ND 95)
1670 IF IS="X" THEN GOSUB 520:GOTO 1560
1680 IF IS=" " THEN 1770 ELSE GOSUB 1690:GOTO 1610
1690 V=ASC(IS)-64:IF V<1 OR V>20 THEN RETURN
1700 LOCATE 1,1,9:PRINT NAM$(V):TAB(60);"(":
1710 IF EI(V)=1 THEN PRINT "Empire": ELSE PRINT "Independent";
1720 PRINT ")":FOR T=1 TO 100
1730 IF INKEY$=" " THEN RETURN 1610
1740 IF EI(V)=1 THEN C2=9:C1=INT(RND*6)+1 ELSE C1=2:C2=INT(RND*6)+1
1750 COLOR C1,C2:LOCATE PY(V),PX(V),9:PRINT MID$(NAM$(V),1,1):NEXT T
1760 RETURN
1770 FOR T=1 TO 20 V=T:GOSUB 1700 NEXT T:GOTO 1660
1780 GOSUB 3730
1790 LOCATE 16,29:PRINT "Scout Status Report";
1800 LOCATE 18,2:PRINT "a":TAB(5);"Destination":TAB(25);"Returns at":TAB(45);"Re
turn year":TAB(65);"Years to go":
1810 LOCATE 19,2:PRINT STRING$(74,196);
1820 FOR T=1 TO 9
1830 IF SENT(T)=1 THEN GOSUB 1850
1840 NEXT T:GOTO 1560
1850 LOCATE 20,2,9:PRINT MID$(STR$(T),2,1):TAB(5);NAM$(DEST(T)):TAB(25);NAM$(RTR
N(T)):TAB(47);RTYR(T):TAB(67);RTYR(T)-YR.
1860 LOCATE 23,29:PRINT "Press any key to continue.";
1870 GOSUB 3500:LOCATE 1,1,9:IF INKEY$="" THEN 1870 ELSE LOCATE 23,29
1880 PRINT SPACE$(30):LOCATE 20,2:PRINT SPACE$(78);
1890 RETURN
1900 GOSUB 3730
1910 LOCATE 16,29:PRINT "Distance Calculator";
1920 LOCATE 18,15:PRINT "Planet":TAB(40);"X":TAB(50);"Y":
1930 LOCATE 19,2:PRINT ">>>";
1940 GOSUB 3500:LOCATE 19,5:IS=INKEY$:IF IS="" THEN 1940 ELSE IS=CHR$(ASC(IS) AN
D 95):IF IS="X" THEN 1560
1950 V=ASC(IS)-64:IF V<1 OR V>20 THEN 1990
1960 N1=V:LOCATE 19,2

```



```

1970 PRINT "a1":TAB(15);NAM$(V):TAB(39);PX(V):TAB(49);PY(V);
1980 LOCATE 20,2:PRINT ">>>";
1990 GOSUB 3500:LOCATE 20,5:IS=INKEY$:IF IS="" THEN 1990 ELSE IS=CHR$(ASC(IS) AN
D 95):IF IS="X" THEN 1560
2000 V=ASC(IS)-64:IF V<1 OR V>20 THEN 1990
2010 N2=V:LOCATE 20,2
2020 PRINT "a2":TAB(15);NAM$(V):TAB(39);PX(V):TAB(49);PY(V);
2030 D=ABS(PX(N1)-PX(N2))+ABS(PY(N1)-PY(N2))
2040 LOCATE 23,5,9:PRINT "They are":D;"units apart (any key).";
2050 IF INKEY$="" THEN 2050 ELSE 1560
2060 GOSUB 3730
2070 LOCATE 16,29:PRINT "Planetary Data System";
2080 LOCATE 18,5:PRINT "Data on: ";
2090 GOSUB 3500:LOCATE 18,14:IS=INKEY$:IF IS="" THEN 2090 ELSE IS=CHR$(ASC(IS) A
ND 95)
2100 V=ASC(IS)-64:IF V<1 OR V>20 THEN 2090 ELSE PRINT NAM$(V):GOTO 2170
2110 LOCATE 19,5:PRINT "Population. ":POPLIN$(V);
2120 LOCATE 20,5:PRINT "Tech Level. ":TLVL(V);"(",TECH$(V),")";
2130 LOCATE 21,5:PRINT "Status. ";
2140 IF EI(V)=1 THEN PRINT "Empire world": ELSE PRINT "Independent";
2150 LOCATE 23,5,9:PRINT "Press any key to continue.";
2160 GOSUB 3500:LOCATE 1,1,9:IS=INKEY$:IF IS="" THEN 2160 ELSE 1560
2170 IF SCO(V)=1 THEN 2110
2180 LOCATE 21,5:PRINT NAM$(V):" Unexplored, sir.":GOTO 2150
2190 LOCATE 1,2,9:PRINT STRING$(78,196):LOCATE 1,30:PRINT "EMBARK";
2200 GOSUB 3730:GOSUB 3750
2210 IF NAV=CP THEN 2340
2220 LOCATE 2,54:PRINT STRING$(LEN(NAM$(CP)),196);
2230 LOCATE 16,15:PRINT "Destination. ":NAM$(NAV);
2240 LOCATE 18,15:PRINT "Arrival year ";
2250 D=ABS(PX(CP)-PX(NAV))+ABS(PY(CP)-PY(NAV))
2260 ARYR=D+YR:PRINT ARYR;
2270 IF ARYR-YR THEN 2310
2280 LOCATE 20,15:PRINT "Distance. ",D;
2290 YR=YR+1:LOCATE 2,8,9:PRINT YR, D=D-1
2300 FOR T=1 TO 400:NEXT T:GOTO 2270
2310 GOSUB 3730:LOCATE 19,19:PRINT "Planetfall. ":NAM$(NAV);
2320 CP=NAV:RECR=9:TAXED=9:SCO(CP)=1:SHBL=9:FOR T=1 TO 700:NEXT T
2330 GOSUB 3600:GOTO 670
2340 LOCATE 19,19:PRINT "The navigators have no orders, sir!";
2350 FOR T=1 TO 1500:NEXT T:GOTO 670
2360 COLOR 4,9:CLS:LOCATE 1,1,9:FOR T=1 TO 24:LOCATE T,1:PRINT CHR$(179):LOCATE
T,8:PRINT CHR$(179):NEXT T:CLR1=6:CLR2=3:GOSUB 530
2370 LOCATE 9,39:PRINT "A T T A C K";
2380 LOCATE 16,29
2390 IF FTR>0 THEN PRINT "Fighter squadrons ready, sir!": ELSE PRINT "We have no
fighters, sir!": FOR T=1 TO 1500:NEXT T:GOTO 670
2400 LOCATE 18,29
2410 IF LTR>0 THEN PRINT "Transports landed, sir!": ELSE PRINT "We have no troop
s, sir!": FOR T=1 TO 1500:NEXT T:GOTO 670
2420 LOCATE 20,29
2430 IF EI(CP)=1 THEN PRINT "This is an Empire world, sir!":FOR T=1 TO 1500:NEX
T T:GOTO 670 ELSE PRINT "All attack systems operational, sir!":FOR T=1 TO 3000:
NEXT T
2440 GOSUB 3730
2450 FOR T=15 TO 23:LOCATE T,49:PRINT CHR$(179):NEXT T:LOCATE 24,49:PRINT CHR$(
179);LOCATE 14,49:PRINT CHR$(194);
2460 LOCATE 15,16:PRINT "I A N D";LOCATE 15,57:PRINT "A I R";
2470 LOCATE 18,2:PRINT "Enemy":TAB(34);"Empire";
2480 LOCATE 18,41:PRINT "Enemy":TAB(74);"Empire";
2490 LOCATE 19,1:PRINT STRING$(80,196):LOCATE 19,1:PRINT CHR$(195)
2500 LOCATE 19,89:PRINT CHR$(189):LOCATE 19,49:PRINT CHR$(197);
2510 IF TLVL(CP)<3 THEN AP=100:GOTO 2540
2520 AP=35+(INT(FTR/40)*10)
2530 AP=AP+((5-TLVL(CP))*8)
2540 LP=40+INT((INT(LTR/35)-POP(CP))*10)
2550 LP=LP+((5-TLVL(CP))*8)
2560 IF AP>99 AND LP>99 THEN 2820
2570 IF LP<1 AND AP<1 THEN 2760
2580 IF LP<0 THEN LP=9 ELSE IF LP>99 THEN LP=100

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2599 IF AP<9 THEN AP=9 ELSE IF AP>99 THEN AP=199
2600 COLOR 3:LOCATE 21,3:PRINT 199-LP:TAB(35):LP:
2610 LOCATE 21,43:PRINT 199-AP:TAB(75):AP:
2620 FOR TIMR=1 TO 899:NEXT TIMR:COLOR 2
2630 IF LP>99 THEN LOCATE 16,5:PRINT "Land Secured";
2640 IF AP>99 THEN LOCATE 16,45:PRINT "Air Secured";
2650 RA=INT(RND*99)+1:RL=INT(RND*99)+1:N=9 COLOR 4:GOSUB 3599
2660 IF RL>LP THEN LP=LP-INT((LP-RL)/2.5):N=N-1
2670 IF RA>AP THEN AP=AP-INT((AP-RA)/2.5):N=N-1
2680 IF N=0 THEN 2729
2690 IF LP<199 THEN LTR=LTR-(INT(RND*2)+1):LOCATE 6,29:PRINT LTR:IF LTR<1 THEN
2769
2700 IF AP<199 THEN FTR=FTR-(INT(RND*2)+1):LOCATE 4,63:PRINT FTR:IF FTR<1 THEN
2769
2710 GOTO 2739
2720 LP=LP+INT((LP-RL)/2.5):AP=AP+INT((AP-RA)/2.5)
2730 FOR T=1 TO 159:NEXT T:IS=INKEY$:IF IS="X" OR IS="x" THEN 2799
2740 LOCATE 21,2:PRINT SPACES(38):LOCATE 21,41:PRINT SPACES(38):
2750 GOTO 2569
2760 GOSUB 3739
2770 LOCATE 29,39:PRINT "The battle has been lost, sir!";
2780 FOR T=1 TO 2999:NEXT T:GOTO 679
2790 GOSUB 3739
2800 LOCATE 29,39:PRINT "Attack manually aborted, sir.";
2810 GOTO 2789
2820 GOSUB 3739
2830 LOCATE 29,39:PRINT NAME$(CP):" garrisoned, sir!";FOR T=1 TO 2999:NEXT T
2840 EI(CP)=1:FOR T=1 TO 29:IF EI(T)=0 THEN 679 ELSE NEXT T:GOTO 3849
2850 GOSUB 3739
2860 LOCATE 16,19:PRINT "Build Ships":LOCATE 16,35:PRINT "You can build";(7+TLV
L(CP))-SHBL:"more ships.":GOTO 3169
2870 LOCATE 18,29:PRINT "Transporta cost:";
2880 TC=(INT(RND*29)+5)+(2*(6-TLVL(CP))):PRINT TC:"Cr.";

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```

1999 LOCATE 19,29:PRINT "Fighters cost :";
1999 FC=(INT(RND*15)+3)+(2*(6-TLVL(CP))):PRINT FC:"Cr.";
1919 LOCATE 29,29:PRINT "Scouts cost :";
1929 SC=(INT(RND*8)+3)+INT(1.5*(6-TLVL(CP))):PRINT SC:"Cr ";
1939 LOCATE 22,29:PRINT "How many transports, sir? ";GOSUB 4939
1949 GOSUB 3969:ETR=ETR+N:CR=CR-(TC*N)
1959 LOCATE 6,59:PRINT ETR:LOCATE 2,38:PRINT CR:
1969 LOCATE 22,29:PRINT SPACES(35):GOSUB 3159:GOSUB 4929
1979 LOCATE 22,29:PRINT "How many fighters, sir? ";GOSUB 4949
1989 GOSUB 3969:FTR=FTR+N:CR=CR-(FC*N)
1999 LOCATE 4,63:PRINT FTR:LOCATE 2,38:PRINT CR:
1999 LOCATE 22,29:PRINT SPACES(35):GOSUB 3159:GOSUB 4929
1919 IF SSH=9 THEN RETURN
1929 LOCATE 22,29:PRINT "How many scouts, sir? ";GOSUB 4959
1939 GOSUB 3969:IF SSH+N>9 THEN SSH=9:CR=CR-((N-9)*SC) ELSE SSH=SSH+N:CR=CR-(N*SC)
1949 LOCATE 4,19:PRINT SSH:LOCATE 2,38:PRINT CR:
1959 RETURN
1969 VALU=0:GOSUB 3599:LOCATE 22,49:IS=INKEY$:IF IS="" THEN PRINT CHR$(249):FOR
QT=1 TO 59:NEXT QT:PRINT CHR$(8):CHR$(58):FOR QT=1 TO 59:NEXT QT:GOTO 3969
1979 IF IS="X" THEN RETURN 3959
1989 V=VAL(IS):IF V=0 AND IS<>"0" THEN 3969
1999 PRINT IS:VALU=VALU+(V*19)
1919 GOSUB 3599:LOCATE 22,49:IS=INKEY$:IF IS="" THEN PRINT CHR$(249):FOR QT=1
TO 59:NEXT QT:PRINT CHR$(8):CHR$(58):FOR QT=1 TO 59:NEXT QT:GOTO 3199 ELSE IF
IS="X" THEN RETURN 3959
1919 V=VAL(IS):IF V=0 AND IS<>"0" THEN 3199
1929 V=VALU+V:PRINT IS:LOCATE 22,49:
1939 IF SHBL+V>MAX THEN PRINT " ";CHR$(8):GOTO 3969
1949 SHBL=SHBL+V:N=V:LOCATE 16,35:PRINT "You can build";MAX-SHBL:"more ships. ";
RETURN
1959 IF SHBL=MAX THEN RETURN 3959 ELSE RETURN
1969 IF TLVL(CP)<3 THEN LOCATE 18,19:PRINT "Sir, this planet cannot even conciev
e space vehicles!";FOR T=1 TO 1999:NEXT T:GOTO 1299

```

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Q. I would like to send printer set-up codes from DOS to my printer, but some of them will not work and others will. I would also like to print graphics within text from EasyWriter I. I can print the graphics from BASIC but not from EasyWriter.

Bob Bostrom
Santa Monica, CA

A. I have found that some of the control code sequences cannot be sent to a printer from MS-DOS. I do not know why. If the code sequence cannot be sent from DOS, you will have to do it from EasyWriter or WordStar. If I were you I would change over to WordStar, as it is much more flexible and powerful than EasyWriter I.

Regarding graphics characters from a word processor I think you will find that any word processing software will not pass characters higher than 127. The reason is that they are intended to generate text, not graphics. Normally, the graphics mode of a dot matrix printer must be switched in and out and your word processing software is not doing this. I have looked at the pages of the Gemini-10X manual you sent and the only code I see that may help is "ESC # " on Page 243. You could try sending this code to the printer before you send the code for the desired graphics character. This code is intended to switch the printer to graphics mode.

Q. I have a Qume Letterpro (22 CPS) and a Gemini-15 (100 to 120 CPS). The Qume seems to print faster with WordStar than the Gemini. Why? I have tried all sorts of different configurations with no success. Can you help?

Steven C. Allen
Des Moines, IA

A. From your description of the way your Qume Letterpro and Gemini-15 are printing, it would seem that the Qume has a larger buffer than the Gemini. This would account for the slowdown that you have with the Gemini. WordStar only sends data to the printer in small sections and it goes to disk for each of these. As a result, a small buffer in the printer will cause slower disk access and thus produce slower printing.

To change this situation you have two options, one is to invest in an external printer buffer or to invest in spooler software which should feed the printer more consistently.

Q. I just purchased a Panasonic KX-P3151 daisy wheel printer. It works with CalcStar and BASIC but will not print with WordStar. If I print with WordStar it tells me that it is printing but nothing prints on the paper. Can you help?

Anthony T. DuBusky
Wilmington, NC

A. It would seem from your description that your version of WordStar needs to be reinstalled. The distribution copy of WordStar is installed for the IBM dot matrix printer and for your printer it should be installed as a standard printer. This should get you up and running. The next thing to do would be to try installing a separate copy of WordStar with all of the different daisy wheel types until you find the one that works best with the Panasonic KX-P3151 printer.

Q. CalcStar rounds off numbers differently than SuperCalc. Is there any way to correct this? I have an Olympia Electronic Compact NP printer. How can I use condensed print without having to flip DIP switches all the time? I would like to merge this feature with CalcStar. Does it hurt the printer to change the DIP switches constantly?

George Pilling
Lisalia, CA

A. You will not be able to merge the following information into CalcStar but you could use it to create an AUTOEXEC.BAT file to set up your printer and then load CalcStar. The information provided is for an Okidata printer. You will have to substitute the correct control code information for your Olympia Compact NP printer. This information will relieve you of having to change the DIP switches everytime you want to change type sizes. DIP switches are not intended to be changed all the time. After repeated changes they could fail, and this is why most are in concealed places. I was not able to furnish the control code information for your printer because you did not send a copy of your printer manual.

From the MS-DOS A> prompt you can change to condensed print. This can be done by typing the following in capital letters only:

```
COPY CON PRN          press RETURN
^Z                     press RETURN
```

All of the above must be done with the printer turned on and online, ready to print. The above sequence should work with your Okidata printer as well as substituting other codes for expanded print, etc. Experiment. Remember, you can't hurt your computer from the keyboard. The ^Z is equivalent to LPRINT CHR\$(29) from BASIC. The ^Z is the end of file marker for DOS and will be the same no matter what function or codes you try to use. This must be done everytime you want compressed print.

After spending a couple of hours "playing" I have come up with another solution which you may like better. It will be executed automatically everytime you boot the disk. Type the following just as shown using all capital letters. This is done from the A> prompt:

```
COPY CON: AUTOEXEC.BAT press RETURN
COPY NARROW.SU PRN: ^Z press RETURN
COPY CON: NARROW.SU   press RETURN
^Z CALCSTAR.COM ^Z    press RETURN
```

The first line creates an AUTOEXEC.BAT file, which the computer will run automatically on every re-boot of the system, bypassing the time and date. The second line tells the computer to send the NARROW.SU to the printer. The third line creates the file to be sent to the printer to turn on condensed print. Line four sends the equivalent of LPRINT CHR\$(29) to the printer as well as executes the program CalcStar. CALCSTAR.COM can be the name of any program, so you could do the same thing to your ReportStar disk for compressed print.

Regarding CalcStar and SuperCalc, rounding numbers the same, if you wish specific we will try to find an answer to your question.

Q. I would like to know if there is a modem that can tell the difference between a human and a computer answering the phone? Also, do you have any hooks of programs for the Sanyo 550 series of computers?

Steven M. ...
Port Riche ...

A. Regarding a modem being able to tell the difference between a human and a computer on the line. Each modem must receive a signal from the other modem. This allows them to communicate with each other. If this signal (carrier) is not present, communication is not possible. This is the only way a modem can determine what or whom has answered the phone.

The following is a list of all of the books that I have been able to find of Sanyo programs. This list is not being endorsed in any way. Persons thinking of purchasing these books must determine their usefulness.

Sanyo MBC-550/555 Beginner & Intermediate Guide, by Fred Blechman, ISBN # 0-03-000-187-0

Sanyo MBC User's Handbook, by Weber Systems, Inc., \$17.95, ISBN # 0-938862-02-2

Sanyo BASIC User's Handbook, by Weber Systems, Inc., \$17.95, ISBN # 0-938862-02-2

Sanyo MBC Business Software in BASIC, by Weber Systems, Inc., \$17.95, ISBN # 0-938862-37-5

Q. In preparing manuscripts, I use a generally accepted format for page numbering and identification. Page 1 is numbered. In the upper right-hand corner of Page 2, and all subsequent pages in Line 1 and beginning at about column 41, I type in my name, script identification and page number per the following example.

Fleshman, A Story/2

I want to automate this, but I am having trouble getting the page numbers to correct.

Ronald R. Fleshman
Snohomish, WA

A. In the sample from your letter, if you substitute the symbol "#", you will get automatically numbered pages just as you want them. The "#" is to be typed (not a space). Try the following:

At the top of Page 1 use .OP (omits page number). HE Fleshman A Story (for next page).

At the top of Page 2 only, .PN (turns on page numbers); .HE Fleshman A Story # (for all other pages)

The examples will print as you requested in your letter. You will be able to position the header text anywhere on the line by inserting or deleting spaces.

Q. I have a Sanyo MBC-555-2 and am considering upgrading to 768K. I use CalcStar and would like to know how large a spreadsheet I can get. If I get this upgrade, will I also have to increase the size of my disk drives? Can I store one file on more than one diskette? Is this what volume labels are for?

Roslyn S. Zelenka
Washington, DC

A. There would be no advantage in increasing your computer memory to 768K for CalcStar. The program in its existing form (Sanyo version) will not look at more than 512K of memory. It will not be necessary to change to larger disk drives because of the compression that is used for the data that CalcStar outputs.

The volume label is used primarily for hard disk drives and would be of little use for floppies other than as a "title."

Q. I am having problems with my Radio Shack Line Printer VII which is being used with my MBC-555-2 computer. The printer always double-spaces text and will occasionally print extra characters which are not part of the text.

Lawrence W. Gill
Berlin Heights, OH

A. The only solution possible for using the Radio Shack LP VII is if it has a switch internally that will allow carriage returns without line feeds. If it has such a switch, you can print normally, as this is what most software packages expect and require.

There was quite a bit written in the summer about printers adding extra characters in text. There is a chance that the problem is in the computer, not the printer. Some people had a problem with the filtering that is at the output of the printer port. I would suggest you have a competent repair company, or Sanyo in New Jersey, check the unit for a problem.

Q. I have a problem getting my Qume Sprint 12/25 to print 12-pitch text. I have done the installation correctly for WordStar, but I can't get 12 pitch. I would also like to be able to skip fields occasionally, with MailMerge inputting information from a data file. How do I do this? Also, I would like to speed up WordStar as well as some of the other programs. Can these be loaded into RAM rather than requiring disk access all of the time? I followed the patches in Joseph Kattan's article, "On Customizing WordStar" (SOFT SECTOR, August '85, Page 45), to omit the function key prompt line and now I cannot exit WordStar using the 'X' from the main menu. What? Also, when I did exit, I lost data from my data disk. Now what do I do?

Peter Langlykke
Yonkers, NY

A. MailMerge will skip a field anytime you want it to without inserting a blank line or space. When you create your variable, if you put /D as follows, you will get the desired results.

&VAR:TABLE-NAME/0&

If there is no input, it will be skipped just as if it did not exist.

When you wish to use 12-pitch printing, rather than WordStar's default of 10 pitch, you should put the dot command CW10 at the top of your file. This will change the horizontal motion index being sent to a daisy wheel printer from 12-120th to 10-120th of an inch.

The easiest way to increase the speed of larger software packages that use overlays (i.e., WordStar and InfoStar), is to purchase a RAM disk software package. This will allow you to load the complete application into RAM as if it were an extra disk drive. Check back issues of SOFT SECTOR for reviews. RAM disk software is available from many advertisers.

It seems that Mr. Kattan's fix, to delete the prompt line at the bottom of the screen, does not work. I tried it with the same results. If you have not at this time recreated your data or been able to recover it, send me the disk and I will try.

Charlotte Stone, office manager for the Detroit office of the Shaw-Walker Co., has been using a Sanyo computer in her daily work routine since October 1983. Brian Stone has been using a variety of Sanyo computers since May 1983. Both have been involved with computers since their first purchase in July 1978.

SOFT TALK

The following products recently have been received by SOFT SECTOR, examined by our magazine staff and approved for the *Soft Sector Seal of Certification*, your assurance that we have seen the product and have ascertained that it is what it purports to be.



TURBO LIGHTNING is a new spelling checker program that works with almost any word processor, including *WordStar* and *MultiMate*, as well as spreadsheets and other applications and utilities. *Turbo Lightning* includes the Random House Spelling Dictionary and Thesaurus and makes them useful in most text applications.

Turbo Lightning runs on the Sanyo 670, 770 and 880 series computers and sells for \$99.95. Borland International, 4565 Scotts Valley Drive, Scotts Valley, CA.

FORTUNE TELLER is a prognostication program that uses the principles of Hindu astrology to make its predictions, based on an individual's time, date and place of birth. The program runs on all the Sanyo MS-DOS computers and sells for \$39.95. Brown-Wagh Publishing, 800 Charcot Avenue #110, San Jose, CA 95131.

QUICKCODE AND PROGRAM DEVELOPMENT is a reference book for *QuickCode* users, and provides documentation and explanation of the *dBase II* programs generated by *QuickCode*. The book provides an example of the potential of *QuickCode*-generated programs through the development of numerous enhancements and improvements. *QuickCode and Program Development* sells for \$18.95. Software Blueprints, P.O. Box 2969, Seal Beach, CA 90740-1969.

DPATH+PLUS is a disk file redirection utility that allows programs to read and write to any file, in any directory, on any disk drive. This utility expands the usefulness of nearly all application programs, and runs on almost all MS-DOS systems. *DPATH+Plus* sells for \$45. Personal Business Solutions, P.O. Box 757, Frederick, MD 21701. (301) 865-3376.

THE COMPUTER UNDERGROUND, a book by M. Harry on computer hacking, crashing, pirating and phone phreak-

ing. Discusses terminology and security measures for protecting computer systems and data. The book sells for \$14.95. Loompanics Unlimited, P.O. Box 1197, Port Townsend, WA 98368.

COMPUTER-ASSISTED INVESTMENT HANDBOOK, a book of 50 ready-to-run BASIC programs dealing with decision-making and statistics. The book includes programs for standard deviation, high-coupon bond yield tables, foreign exchange forecasting and arbitrage-option conversion. The *Computer-Assisted Investment Handbook* sells for \$19.95; a diskette containing all 50 programs is available for Sanyo BASIC and GW-BASIC as well as for other systems for \$100. Programmed Press, 2301 Baylis Avenue, Elmont, NY 11003.

CUBIC TIC-TAC-TOE, a 3-dimensional tic-tac-toe game with three versions and three levels of difficulty. *Cubic Tic-Tac-*

Toe sells for \$29.95. Brown-Wagh Publishing, 800 Charcot Avenue #110, San Jose, CA 95131.

MY A-B-C's, six educational games for children aged 3 to 7. The games teach youngsters how to recognize letters, identify letter combinations in words, develop concentration skills and hand-eye coordination. *My A-B-C's* runs on the Sanyo 670, 770 and 880 series computers and sells for \$19.95, plus \$3 S/H. Paperback Software International, 2612 Eighth Street, Berkeley, CA 94710.

The *Seal of Certification* program is open to all manufacturers of products for Sanyo MBC-550/555, 675, 775 and 885 computers, regardless of whether they advertise in *SOFT SECTOR*.

By awarding a *Seal*, the magazine certifies the product does exist — that we have examined it and have a sample copy — but this does not constitute any guarantee of satisfaction. As soon as possible, these hardware or software items will be forwarded to *SOFT SECTOR* reviewers for evaluation.

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Submitting Material

Contributions to *SOFT SECTOR* are welcome from everyone. We like to run a variety of programs which will be useful/helpful/fun for other Sanyo owners.

• **FORMAT:** Unless the program accompanying your submission is less than 10 lines, we must have the program itself on disk. We will print out the listing to our specifications. We simply cannot take the time to key in (and debug our typing errors) material which is longer than that. Editorial copy can also be included on disk, using any of the word processors currently available for the Sanyo 550, 555 or 775. However, please also include a double-spaced hard copy of your editorial material and hard copy of your program listing. Please do not send text in all capitals. Use upper- and lowercase. While it is a big help to us in typesetting for you to send your article saved on disk using the ASCII option, it is not mandatory. But we must have, at the very least, a double-spaced hard copy of the article.

• **WHAT TO WRITE:** Anything with a practical application. If it interests you, it will probably interest a lot of others. However, we vastly prefer articles with accompanying programs which can be entered and run. We can prepare finished tables, diagrams and schematics from your rough draft if you provide legible copy and full directions. We have a continuing need for short articles with short listings.

We do pay for submissions, based on a number of criteria. Those wishing remuneration should so state when making submissions.

For the benefit of those who wish more detailed information on making submissions, please send an SASE to: Submissions Editor, *SOFT SECTOR*, The Falsoft Building, P.O. Box 385, Prospect, KY 40059. We will send you comprehensive guidelines.

Please do not submit programs or articles currently submitted to another publication.



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Here we are again with more winners of The Great SOFT SECTOR One-Liner Contest. The authors of these winning entries will receive a copy of the February edition of SOFT SECTOR ON DISK.

To briefly restate the rules of the contest, begin the program with the number one and end it in a single line. Anything else goes. Entries will be accepted in either Sanyo BASIC or GW-BASIC. Include a printed listing, a title for the program and a short explanation of what it does. Send it to The Great SOFT SECTOR One-Liner Contest, P.O. Box 385, Prospect, KY 40059.

One Liner

ARTIFACT

This program uses SIN with the seven colors available with artifacting to produce a design that appears to use many different shades and tones not normally available.

```
1 WHILE I=0:CLS:LOCATE 1,1:GOSUB 100:GOTO 200
2 *2)+1)*2)+1:GOTO 100:GOTO 200
3 *2)+1)*2)+1:GOTO 100:GOTO 200
4 *2)+1)*2)+1:GOTO 100:GOTO 200
5 *2)+1)*2)+1:GOTO 100:GOTO 200
6 *2)+1)*2)+1:GOTO 100:GOTO 200
7 *2)+1)*2)+1:GOTO 100:GOTO 200
8 *2)+1)*2)+1:GOTO 100:GOTO 200
9 *2)+1)*2)+1:GOTO 100:GOTO 200
10 *2)+1)*2)+1:GOTO 100:GOTO 200
11 *2)+1)*2)+1:GOTO 100:GOTO 200
12 *2)+1)*2)+1:GOTO 100:GOTO 200
```

Jon McGuire
Orange Park, FL

One Liner

3-D WITH COS AND SIN

This One-Liner creates a three-dimensional picture using the COSine and SINe functions. After you have finished viewing the program, press any key to end it.

```
1 LOCATE 1,1:COLOR 2:CLS:LINE(40,40)
2 -(61,160),7,B:SYMBOL(55,0),"3-D With CO
3 S+SIN By Kevin Pike",2,2,6:X1=50:X2=
4 50:FOR Y=4.99 TO 17.43 STEP .04:X1=X1+1
5 :X2=X2-1:LINE(X1,COS(Y)*101.6/4+100)-(X2
6 ,SIN(Y)*101.6/4+100),Y MOD 7+1:NEXT Y:GOTO 1
7 INPUT$(1)
```

Kevin Pike
Storrs, CT

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